

Illinois Highway Design Standards for Traffic Control:

January, 2007

Please Note:

This booklet is based on the Illinois Department of Transportation's Highway Standards and Standard Specifications for Road and Bridge Construction, adopted January 1, 2007. Refer to your contract documents for the appropriate Provisions that are in effect for each Specific Contract.



Illinois Department of Transportation

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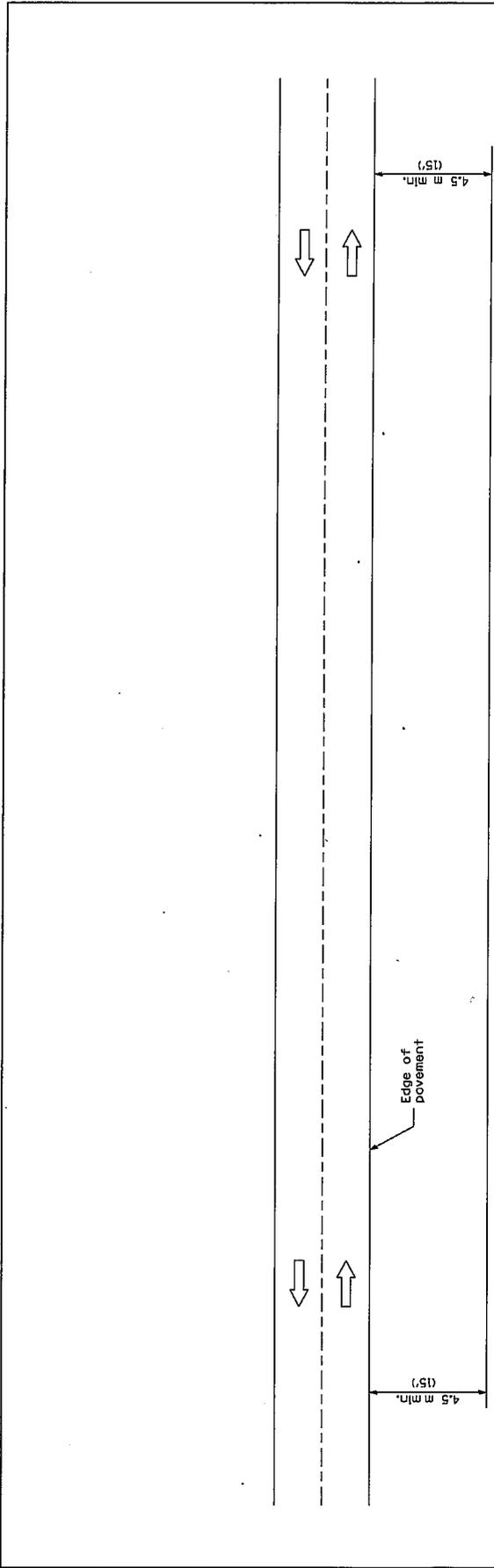
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INDEX OF STANDARDS

<u>Standard</u>	<u>Application</u>	<u>Page</u>
701001	Off-Road Operations, 2L, 2W, More than 4.5 m (15') Away	1
701006	Off-Road Operations, 2L, 2W, 4.5 m (15') to 600 mm (24") From Pavement Edge	2
701011	Off-Road Moving Operations, 2L, 2W, Day Only.....	3
701101	Off-Road Operations, Multilane, 4.5 m (15') to 600 mm (24") From Pavement Edge	4
701106	Off-Road Operations, Multilane, More Than 4.5 m (15') Away.....	5
701201	Lane Closure, 2L, 2W, Day Only, for Speeds, \geq 45 MPH	6
701206	Lane Closure, 2L, 2W, Night Only, for Speeds, \geq 45 MPH	7
701301	Lane Closure, 2L, 2W, Short Time Operations	8
701306	Lane Closure, 2L, 2W, Slow Moving Operations Day Only, for Speeds \geq 45	9
701311	Lane Closure, 2L, 2W, Moving Operations – Day Only	10
701316	Lane Closure, 2L, 2W, Bridge Repair for Speeds \geq 45 mph	11
701321	Lane Closure, 2L, 2W, Bridge Repair with Barrier	12
701326	Lane Closure, 2L, 2W, Pavement Widening, For Speeds \geq 45 MPH	13
701331	Lane Closure, 2L, 2W, With Run-Around, for Speeds \geq 45 MPH	14
701336	Lane Closure, 2L, 2W, Work Areas in Series, for Speeds \geq 45 MPH	15
701400	Approach to Lane Closure, Freeway/Expressway.....	16
701401	Lane Closure, Freeway/ Expressway	17
701402	Lane Closure, Freeway/Expressway, with Barrier.....	18
701406	Lane Closure, Freeway/Expressway, Day Operations Only.....	19
701411	Lane Closure, Multilane at Entrance or Exit Ramp for Speeds \geq 45 MPH	20
701416	Lane Closure, Freeway/Expressway, with Crossover and Barrier.....	21
701421	Lane Closure, Multilane, Day Operations Only, for Speeds \geq 45 MPH to 55 MPH	22
701422	Lane Closure, Multilane, for Speeds \geq 45 MPH to 55 MPH	23
701423	Lane Closure, Multilane, with Barrier for Speeds \geq 45 MPH to 55 MPH.....	24
701426	Lane Closure, Multilane, Intermittent or Moving Operations for Speeds \geq 45 MPH	25
701431	Lane Closure, Multilane, Undivided with Crossover, for Speeds \geq 45 MPH to 55 MPH.....	26
701446	Two Lane Closure, Freeway/Expressway	27
701501	Urban Lane Closure, 2L, 2W, Undivided	28
701502	Urban Lane Closure, 2L, 2W, Bi-directional Left Turn Lane.....	29
701601	Urban Lane Closure, Multilane, 1W or 2W with Nontraversable Median	30

INDEX OF STANDARDS

<u>Standard</u>	<u>Application</u>	<u>Page</u>
701602	Urban Lane Closure, Multilane, 2Way with Bi-directional Left Turn Lane.....	31
701606	Urban Lane Closure, Multilane, 2Way with Mountable Median...	32
701701	Urban Lane Closure, Multilane Intersection	33
701801	Lane Closure, Multilane 1Way or 2Way Crosswalk or Sidewalk Closure	34
702001	Traffic Control Devices	35
704001	Temporary Concrete Barrier	36
B.L.R. 17	Traffic Control Devices - Day Labor Construction	37
B.L.R. 18	Traffic Control Devices - Day Labor Maintenance	38
B.L.R. 21	Typical Application of Traffic Control Devices for Construction on Rural Local Highways	39
B.L.R. 22	Typical Application of Traffic Control Devices for Construction on Rural Local Highways (2-Lane 2-Way Rural Traffic, Road Closed to Thru Traffic)	40
B.L.R. 25	Type 1A Barricade for Non-NHS Routes	41
720011	Metal Posts for Signs, Markers & Delineators.....	42
729001	Applications of Types A & B Metal Posts (For Signs & Markers)..	43
780001	Typical Pavement Markings	44
781001	Typical Application Raised Reflective Pavement Markers	45
Revised and New Bureau of Design and Environment (BDE) Special Provisions which could impact your traffic control.....		46



TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Fencing contracts and maintenance
- Cleaning culverts

GENERAL NOTES

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 4.5 m (15') from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 4.5 m (15') clear zone in any hour, traffic control shall be according to Standard 701006.

All dimensions are in millimeters (inches) unless otherwise shown.

Illinois Department of Transportation		ISSUED 1-1-97
APPROVED	JANUARY 1, 2005	
ENGINEER OF OPERATIONS	<i>[Signature]</i>	
APPROVED	JANUARY 1, 2005	
ENGINEER OF TRAFFIC CONTROL	<i>[Signature]</i>	



DATE	REVISIONS
1-1-05	Revised title and notes.
1-1-97	Renum. Standard 2301-6.

**OFF-RD OPERATIONS,
2L, 2W, MORE THAN
4.5 m (15') AWAY**

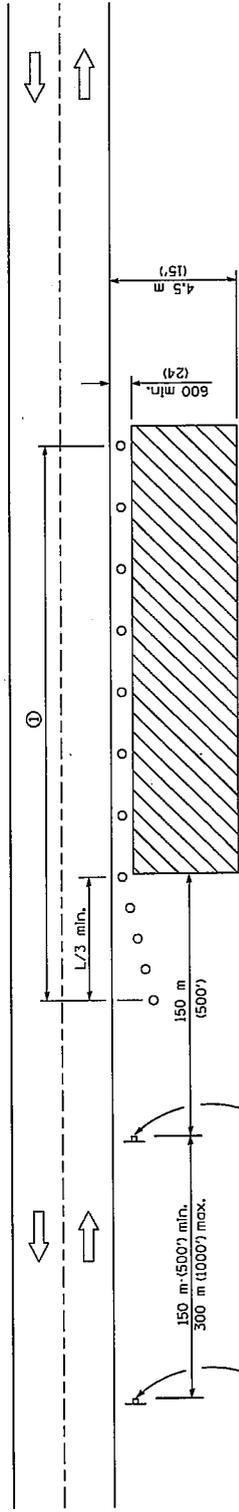
STANDARD 701001-01

Standard 701001.

General Information:

1. No special signing is required.
2. When the work operation requires that four or more work vehicles cross the 15 ft. clear zone in any one hour, traffic control should be in conformance with STANDARD 701006.

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For contract construction projects

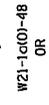


W20-1(0)-48

For maintenance and utility projects



W21-4(0)-48



W21-1a(0)-48



W21-11(0)(0)-48

GENERAL NOTES

This Standard is used where any vehicles, equipment, workers or their activities will encroach in this area 4.5 m (15') to 600 mm (24") from the edge of pavement.

Calculate L as follows:

SPEED LIMIT FORMULAS

70 Km/h (40 mph) or less: $L = \frac{WS^2}{150}$ (English) $L = \frac{WS^2}{60}$ (Metric)

80 Km/h (45 mph) or greater: $L = 0.65(W)(S)$ $L = (W)(S)$

W = Width of offset in meters (feet).

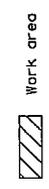
S = Normal posted speed Km/h (mph).

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 8 m (25') centers for L/3 distance, and at 15 m (50') centers through the remainder of the work area.

TYPICAL APPLICATIONS

- Utility operations
- Culvert extensions
- Side slope changes
- Sign installation
- Landscaping operations
- Shoulder repair
- Sign installation and maintenance

SYMBOLS



Work area



Sign



Cone, drum or barricade

2

Illinois Department of Transportation APPROVED: <i>[Signature]</i> January 1, 2005 ENGINEER OF HIGHWAYS APPROVED: <i>[Signature]</i> January 1, 2005 ENGINEER OF DESIGN AND ENVIRONMENT	ISSUED 1-1-97
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DATE	REVISIONS
1-1-05	Revised title, notes, and sign spacing.
1-1-98	Rev. 1st GEN. NOTE.
	Rev. (24") to (24") in 3rd GEN. NOTE.

OFF-RD OPERATIONS, 2L, 2W,
4.5 m (15') TO 600 mm (24")
FROM PAVEMENT EDGE

STANDARD 701006-02

All dimensions are in millimeters (inches) unless otherwise shown.

Standard 701006.

When the work operation requires four or more work vehicles enter through traffic lanes in a one hour period, a flagger shall be provided and a “FLAGGER” sign shall be substituted for the “WORKER” sign. [SS pg. 579 / 701.18(a)]

Various Specifications:

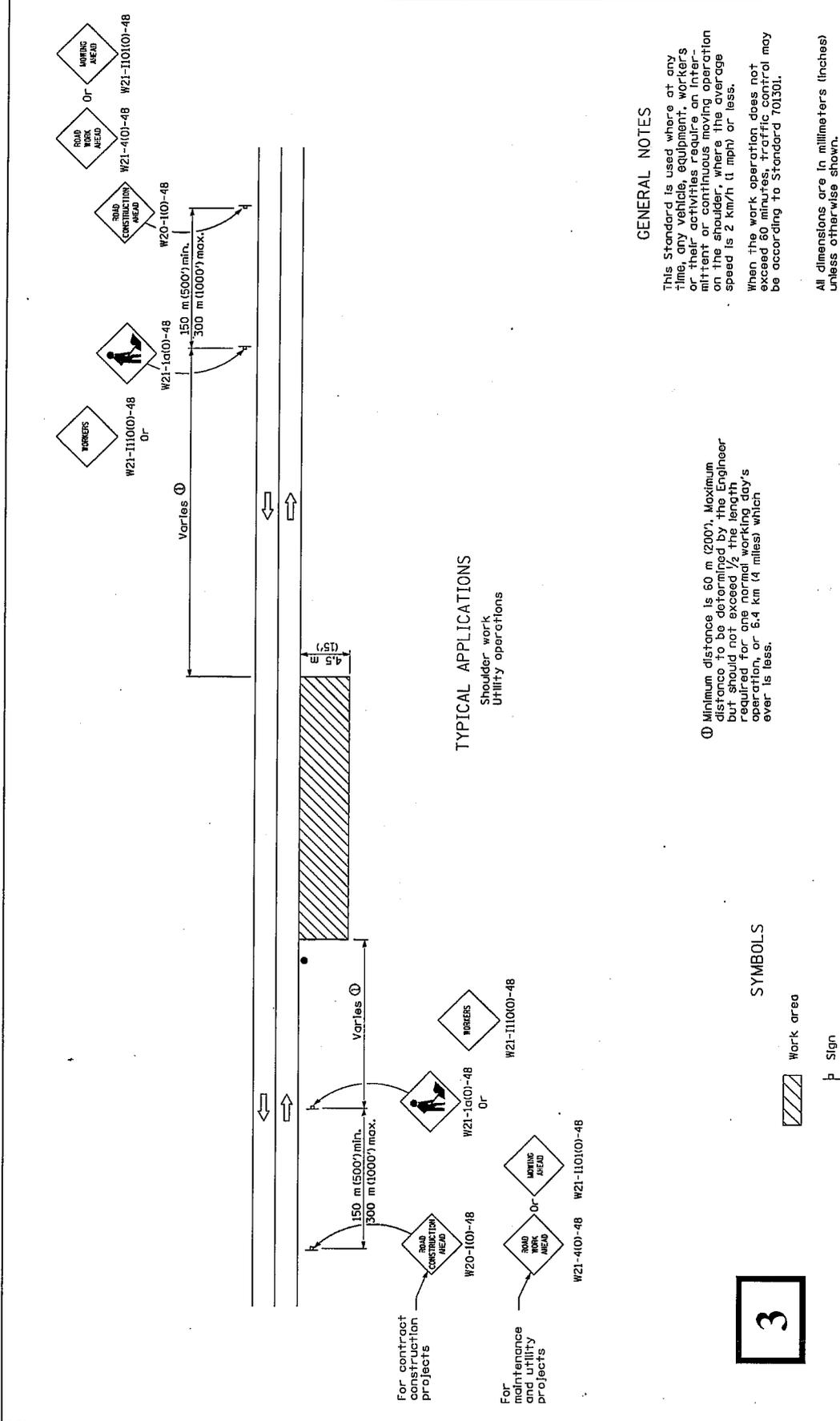
1. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. . . . At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement [SS pg. 570 / 701.08]

2. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 573 / 701.14]

General Information:

If the work operation does not exceed 60 minutes, traffic may be in conformance with STANDARD 701301.

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TYPICAL APPLICATIONS

Shoulder work
Utility operations

SYMBOLS

- Work area
- Flagger with traffic control sign when required

GENERAL NOTES

This Standard is used where at any time, dry vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the shoulder, where the average speed is 2 km/h (1 mph) or less. When the work operation does not exceed 60 minutes, traffic control may be according to Standard 701301.

Ⓞ Minimum distance is 60 m (200'), Maximum distance to be determined by the Engineer but should not exceed 1/2 the length required for one normal working day's operation, or 6.4 km (4 miles) whichever ever is less.

All dimensions are in millimeters (inches) unless otherwise shown.

Illinois Department of Transportation		ISSUED 1-1-97
APPROVED	JANUARY 1, 2005	
ENGINEER OF TRANSPORTATION		
APPROVED	JANUARY 1, 2005	
ENGINEER OF DESIGN AND ENVIRONMENT		

DATE	REVISIONS
1-1-05	Revised title, notes, and sign spacing.
1-1-97	Renum. Standard 2305-9, Deleted orange flags.

**OFF-RD MOVING OPERATIONS,
2L, 2W, DAY ONLY**

STANDARD 701011-01

Standard 701011.

When the work operation requires four or more work vehicles enter through traffic lanes in a one hour period, a flagger shall be provided and a “FLAGGER” sign shall be substituted for the “WORKER” sign. [SS pg. 579 / 701.18(a)]

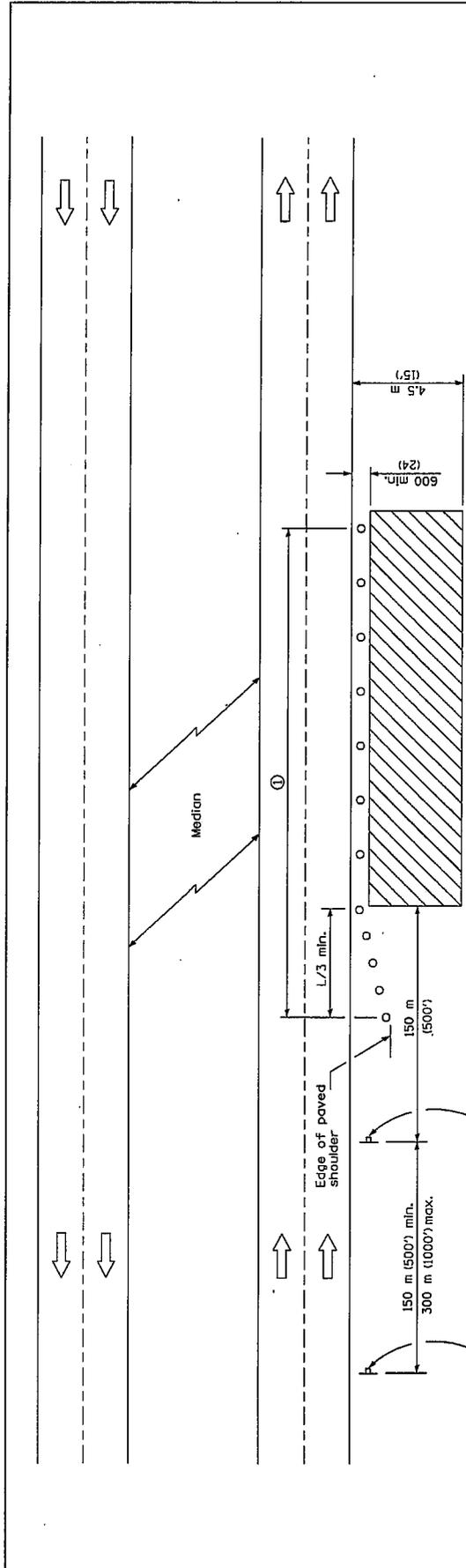
Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 569 / 701.04]
2. When adequate right of way does not exist, vehicles and materials shall be located at least 15 ft (4.5 m) from the edge of any pavement open to traffic, unless located behind temporary concrete barrier, temporary bridge rail, or other man-made or natural barriers. [SS pg. 571 / 701.11]
3. Any unattended obstacle or excavation (not patching) in the work area which constitutes a hazard in the opinion of the Engineer, shall be delineated by devices at 50 ft (15 m) centers. If the hazard exceeds 250 ft (75 m) in length, the spacing of devices may be increased to 100 ft (30 m). [SS pg. 571 / 701.11]
4. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 573 / 701.14]
5. Devices delineating isolated obstacles, excavations, or hazards at night. (Does not apply to patching.) Lights Required: Flashing bi-directional lights. [SS pg. 575 / 701.16]
6. Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night. (Does not apply to widening.) Lights Required: Steady burn bi-directional lights. [SS pg. 575/701.16]

General Information:

All signs are to be removed at completion of the day's operations.

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GENERAL NOTES

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 4.5 m (15') to 600 (24') from the edge of pavement.

Calculate L as follows:

SPEED LIMIT FORMULAS

70 km/h (40 mph) or less: Metric $L = \frac{WS^2}{150}$ (English) $L = \frac{WS^2}{60}$

80 km/h (45 mph) or greater: $L = 0.65(W)(S)$ $L = (W)(S)$

W = Width of offset in meters (feet).
 S = Normal posted speed km/h (mph).

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 8 m (25') centers for L/3 distance, and at 15 m (50') centers through the remainder of the work area.

TYPICAL APPLICATIONS

- Utility operations
- Culvert extensions
- Side slope changes
- Guardrail installation and maintenance
- Detector installation
- Landscaping operations
- Shoulder repair
- Sign installation and maintenance

SYMBOLS

- Work area
- Sign
- Cone, drum or barricade

4

DATE	REVISIONS
1-1-05	Revised title, notes, and sign spacing.
1-1-97	Renum. Standard 2314-9, Deleted orange flags.

APPROVED ILLINOIS DEPARTMENT OF TRANSPORTATION BRUCE A. WATSON CHIEF ENGINEER	ISSUED 1-1-97 AUGUST 1, 2005 APPROVED ILLINOIS DEPARTMENT OF TRANSPORTATION BRUCE A. WATSON CHIEF ENGINEER
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OFF-ROAD OPERATIONS, MULTILANE.
 4.5 m (15') TO 600 mm (24')
 FROM PAVEMENT EDGE

STANDARD 701101-01

All dimensions are in millimeters (inches) unless otherwise shown.

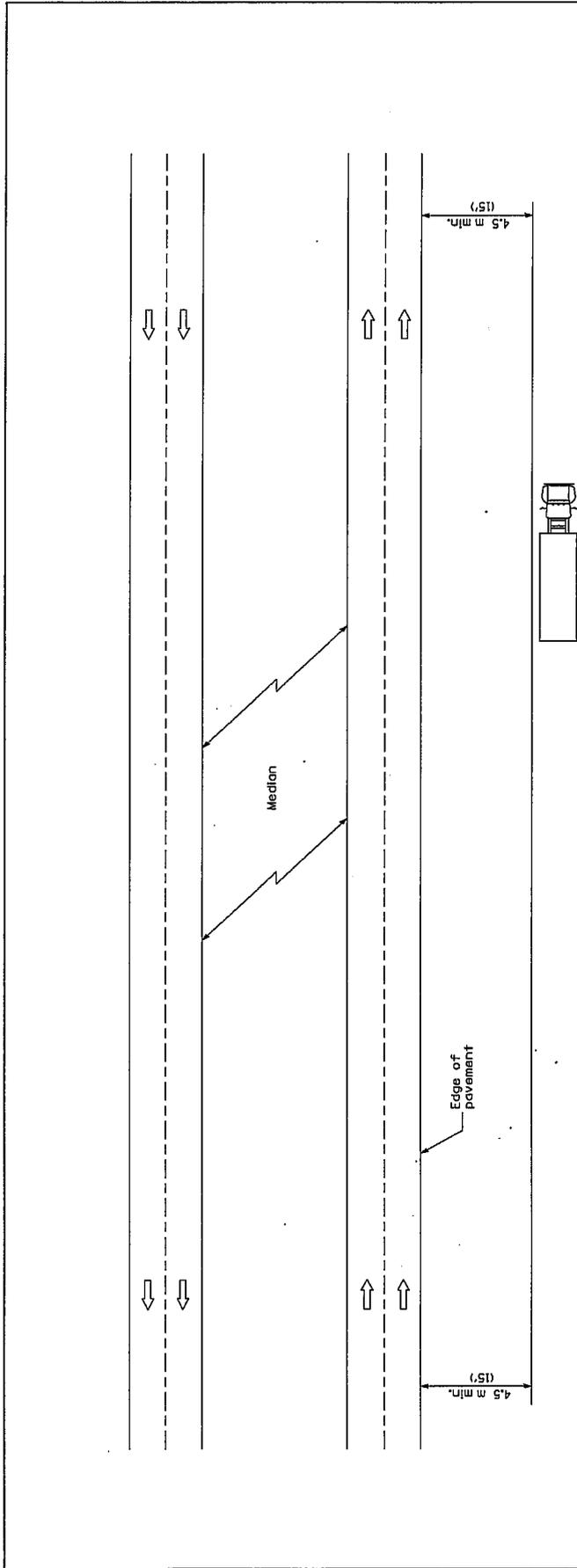
Standard 701101.

When the work operation requires four or more work vehicles enter through traffic lanes in a one hour period, a flagger shall be provided and a “FLAGGER” sign shall be substituted for the “WORKER” sign. [SS pg. 579 / 701.18(a)]

Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of the motorists. [SS pg. 569 / 701.04]
2. Any unattended obstacle or excavation (not patching) in the work area which constitutes a hazard in the opinion of the Engineer, shall be delineated by devices at 50 ft (15 m) centers. If the hazard exceeds 250 ft (75 m) in length, the spacing of devices may be increased to 100 ft (30 m). [SS pg. 571 / 701.11]
3. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 573 / 701.14]
4. Devices delineating isolated obstacles, excavations, or hazards at night. (Does not apply to patching.) Lights Required: Flashing bi-directional lights [SS pg. 575 / 701.16]
5. Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night. (Does not apply to widening.) Lights Required: Steady burn bi-directional lights. [SS pg. 575/701.16]

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 4.5 m (15') from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 4.5 m (15') clear zone in any one hour, traffic control shall be according to Standard 701101.

This Standard also applies to work performed in the median more than 4.5 m (15') from either pavement.

All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Fencing contracts

DATE	REVISIONS
1-1-05	Revised title.
1-1-97	Renum. Standard 2313-6.

**OFF-RD OPERATIONS, MULTILANE,
MORE THAN 4.5 m (15') AWAY**

STANDARD 701106-01

5

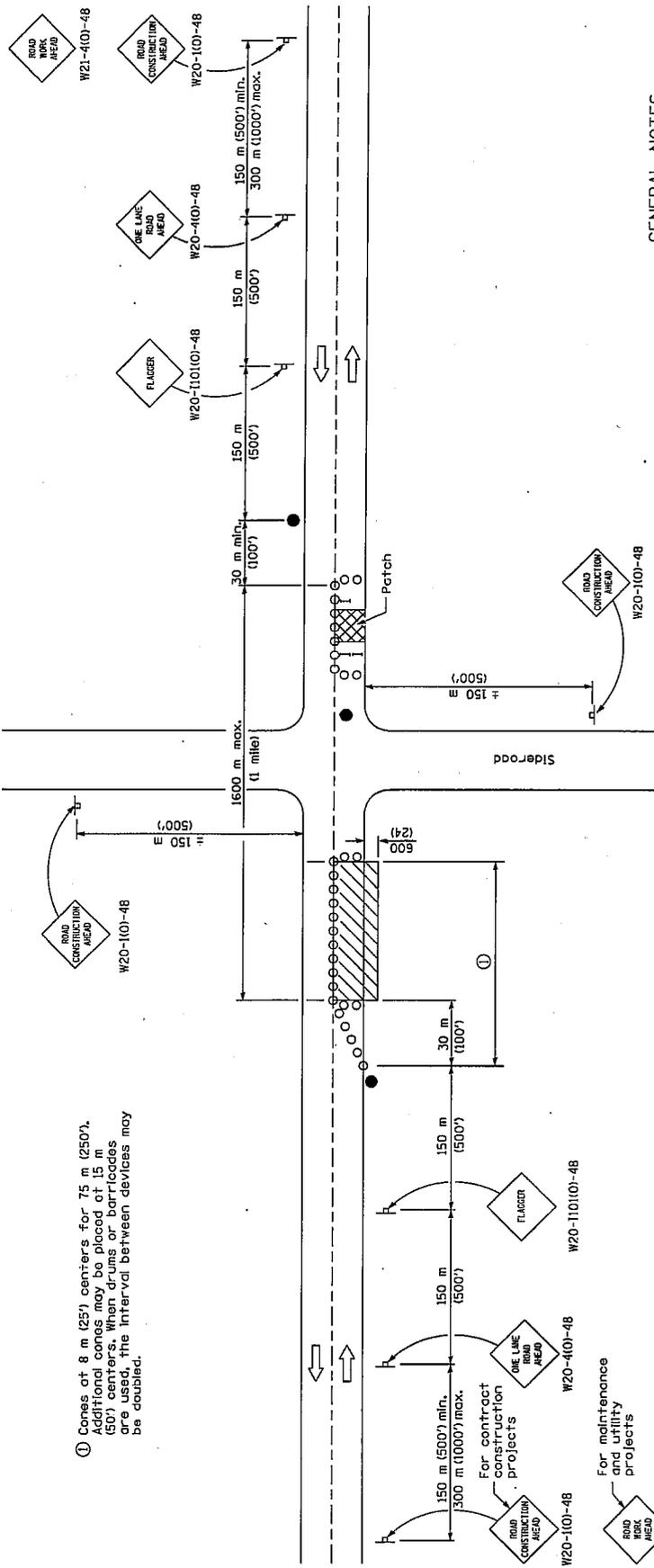
Illinois Department of Transportation
 APPROVED: [Signature] JANSKY, L. 2005
 ENGINEER OF INFRASTRUCTURE
 APPROVED: [Signature] JANSKY, L. 2005
 ENGINEER OF DESIGN AND ENVIRONMENT
 ISSUED 1-1-97

Standard 701106.

General Information:

1. No special signing required.
2. When the work operation requires that four or more vehicles cross the 15 ft (4.5 m) clear zone in any one hour, traffic control should be in conformance with Standard 701104.
3. This standard also applies to work performed in the median more than 15 ft (4.5 m) from either pavement.

FOR INFORMATIONAL USE ONLY



① Cones of 8 m (25') centers for 75 m (250'). Additional cones may be placed at 15 m (50') centers. When drums or barricades are used, the interval between devices may be doubled.

For contract construction projects

For maintenance and utility projects

TYPICAL APPLICATIONS

- Isolated patching
- Utility operations
- Storm sewer
- Culverts
- Cable placement

SYMBOLS

- Work area
- Sign
- Barricade or drum
- Cone, drum or barricade
- Flagger with traffic control sign

GENERAL NOTES

This Standard is used where at any time, any vehicles, equipment, workers or their activities will encroach in the area between the center line and a line 600 mm (24") outside the edge of pavement for daylight operation.

When the distance between successive work areas exceeds 600 m (2000'), additional warning signs, flaggers, and taper shall be placed as shown.

All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS
1-1-05	Revised title and notes. Moved flagger.
1-1-00	Rev. TYPICAL APPLICATION & detail of patch area.

LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH

STANDARD 701201-02



Illinois Department of Transportation

APPROVED: [Signature] January 1, 2005

REVIEWED: [Signature] January 1, 2005

APPROVED: [Signature] January 1, 2005

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

Standard 701201.

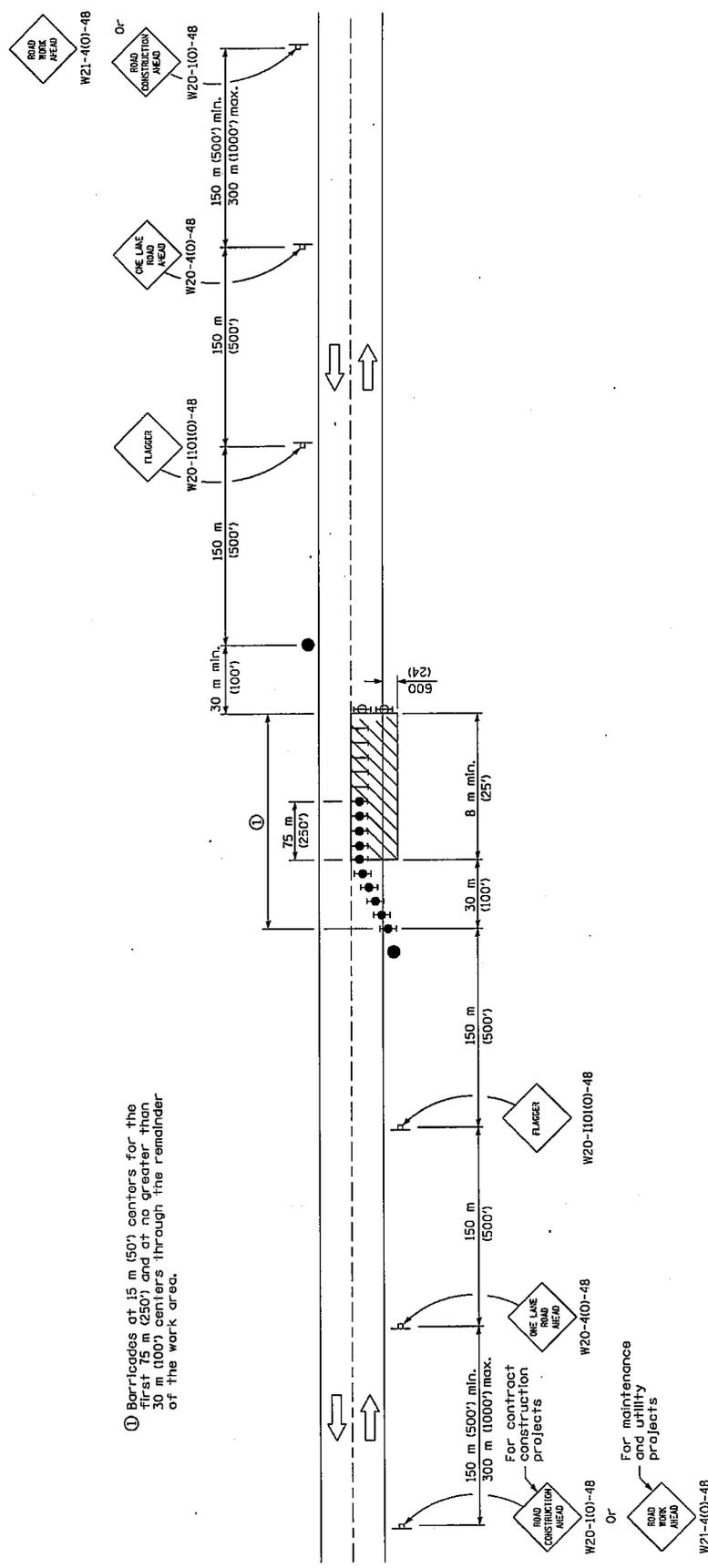
Various Specifications:

1. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. . . . At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 570 / 701.08]
2. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. . . . Flaggers will not be required when no work is being performed, unless there is a lane closure on two-lane, two-way pavement. [SS pg. 571 / 701.13]
3. Two Lane Highways. Two flaggers will be required for each separate operation where two-way traffic is maintained over one lane of pavement. . . . Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 572 / 701.13(a)]
4. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 573 / 701.14]
5. Pavement patching: [SS pg. 578 / 701.17(e)]
6. No broken pavement, open holes, or partially filled patches shall remain overnight and all devices shall be removed before dark. If patches are not opened when required, additional traffic control shall be provided at no additional cost to the Department. [SS pg. 578 / 701.17(e)(2)b.]

General Information:

1. At the completion of the day's operations, all materials, equipment, signs, cones, barricades, and drums are to be removed and the work area opened to traffic.
2. If the work operation does not exceed 60 minutes, traffic may be in conformance with STANDARD 701301.

FOR INFORMATIONAL USE ONLY



① Barricades at 15 m (50') centers for the first 75 m (250') and at no greater than 30 m (100') centers through the remainder of the work area.

GENERAL NOTES

This standard is used where at any time, any vehicle, equipment, workers or their activities will encroach in the area between the center line and a line 600 mm (24") from the edge of pavement for nighttime operation.

All dimensions are in millimeters (inches) unless otherwise shown.

SYMBOLS

- Work area
- Sign
- Flagger with traffic control sign
- Barricade or drum
- Barricade or drum with flashing light
- Barricade or drum with steady burning light

TYPICAL APPLICATIONS

isolated patch
installation of drainage structure
utility operations



DATE	REVISIONS
1-1-05	Revised title and notes.
1-1-97	Renum. Standard 2304-10. Deleted orange flags. Revised 2nd GN.

**LANE CLOSURE, 2L, 2W, NIGHT ONLY,
FOR SPEEDS ≥ 45 MPH**

STANDARD 701206-01

Illinois Department of Transportation
 APPROVED: [Signature] 2005
 ENGINEER OF PUBLIC WORKS
 APPROVED: [Signature] 2005
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

Standard 701206.

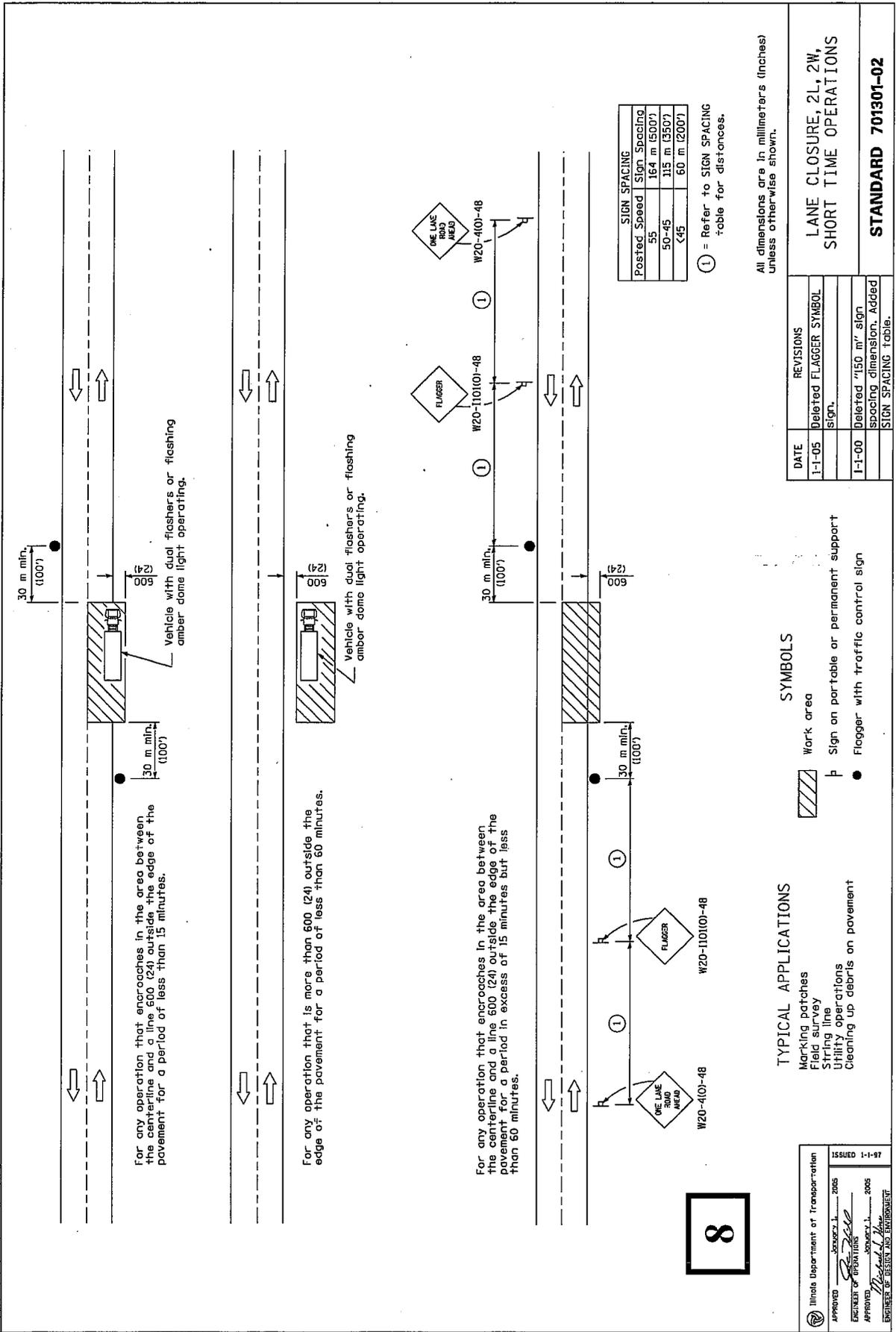
Various Specifications:

1. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. . . . At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 570 / 701.08]
2. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 571 / 701.13]
3. Night time flagging: [SS pg. 571 / 701.13]
4. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 572 / 701.13(a)]
5. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
6. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

General Information:

1. This Std. may be used for bridge repair projects in lieu of Std 701316 where the minimum passing sight distance (Section 3B-5 MUTCD) through the barricaded area is available from a point approx. 350 ft (105 m) in advance of the first barricade in either direction, the maximum length of closure, including taper, is approximately 300 ft (90 m) and the estimated ADT does not exceed 1,000.
2. When Standard 701206 is specified for bridge repair projects, the bridge rail and guardrail adjacent to the open traffic lane shall be delineated with vertical panels mounted back to back at 50 ft (15 m) centers.

FOR INFORMATIONAL USE ONLY



For any operation that encroaches in the area between the centerline and a line 600 (24) outside the edge of the pavement for a period of less than 15 minutes.

For any operation that is more than 600 (24) outside the edge of the pavement for a period of less than 60 minutes.

For any operation that encroaches in the area between the centerline and a line 600 (24) outside the edge of the pavement for a period in excess of 15 minutes but less than 60 minutes.

TYPICAL APPLICATIONS
 Marking patches
 Field survey
 String line
 Utility operations
 Cleaning up debris on pavement

SYMBOLS
 Work area
 Sign on portable or permanent support
 Flagger with traffic control sign

LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS

STANDARD 701301-02

All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS
1-1-05	Deleted FLAGGER SYMBOL sign.
1-1-00	Deleted "150 m" sign spacing dimension. Added SIGN SPACING Table.

Illinois Department of Transportation
 APPROVED: [Signature] JANUARY 1, 2005
 ENGINEER OF OPERATIONS
 APPROVED: [Signature] JANUARY 1, 2005
 ENGINEER OF DESIGN AND ENVIRONMENT

Standard 701301.

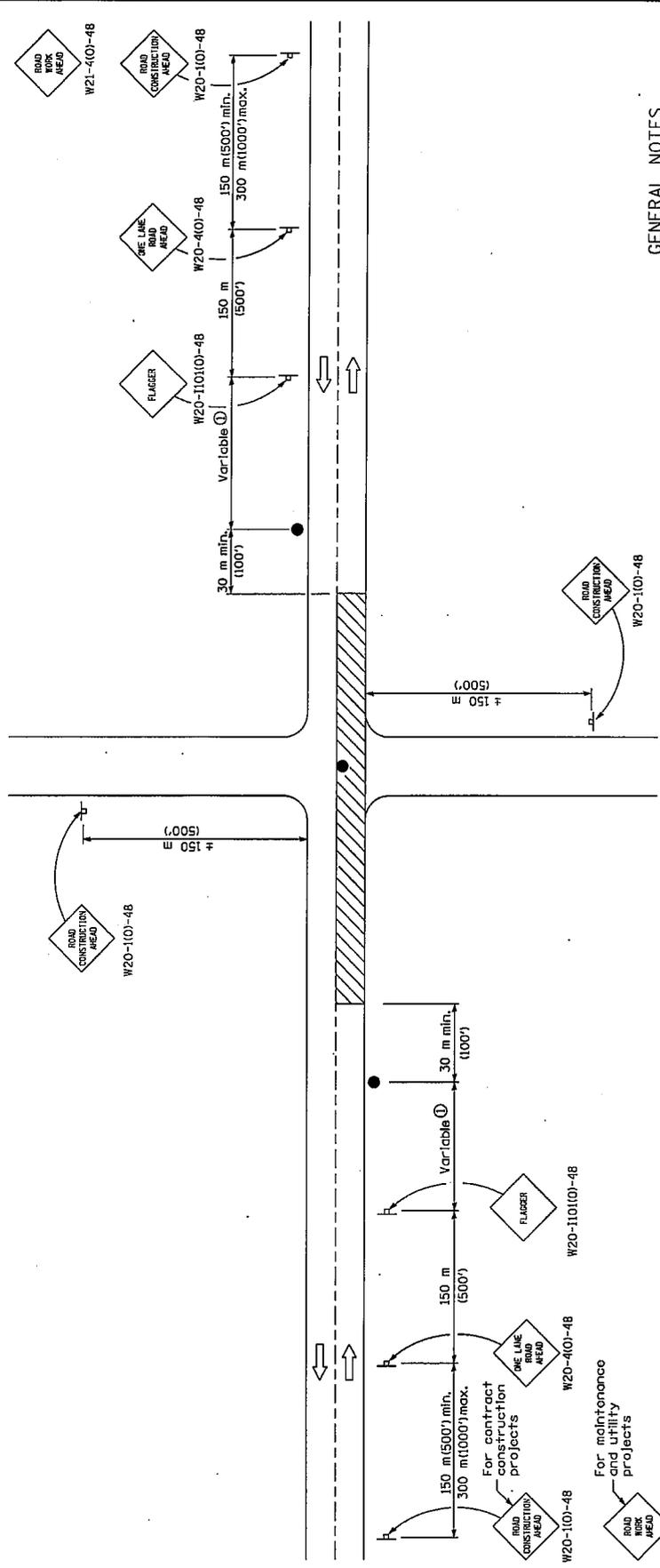
Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 569 / 701.04]
2. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. . . . At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 570 / 701.08]
3. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 571 / 701.013]
4. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 572 / 701.13(a)]
5. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 573 / 701.14]

General Information:

Trucks, equipment, and / or materials stored along the highway for more than one hour shall be stored according to Article 701.11.

FOR INFORMATIONAL USE ONLY



9

TYPICAL APPLICATIONS

- Bituminous resurfacing
- Milling operations
- Utility operations
- Shoulder operations

SYMBOLS

- Work area
- Sign on portable or permanent support
- Flagger with traffic control sign

GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the pavement. The maximum speed of travel is greater than 2 km/h (1 mph) and less than 6 km/h (4 mph).

When the operation does not exceed 60 minutes, traffic control may be according to Standard 701301.

All dimensions are in millimeters (inches) unless otherwise shown.

① Minimum distance is 60 m (200'). Maximum distance to be determined by the Engineer but should not exceed 1/2 the length of the road or 3200 m (2 miles), whichever ever is less.

DATE	REVISIONS
I-1-05	Deleted FLAGGER SYMBOL sign and revised sign spacing.
I-1-97	Renum. Standard 2306-10.
	Deleted orange flags and FRESH OIL sign.

LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS > 45 MPH

STANDARD 701306-01

Illinois Department of Transportation

APPROVED: *[Signature]* 2005
 ENGINEER OF OPERATIONS

ISSUED: I-1-97

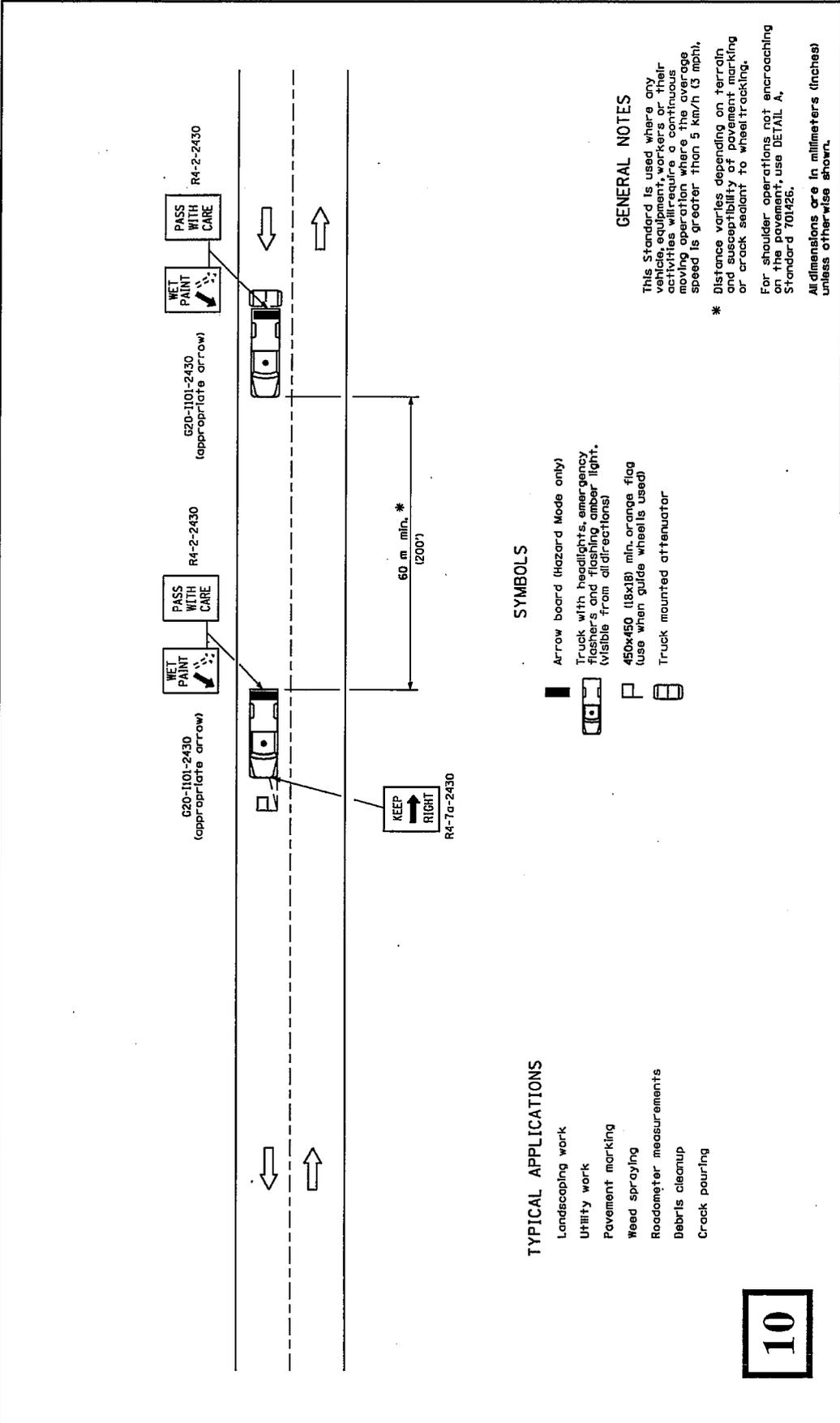
APPROVED: *[Signature]* 2005
 ENGINEER OF DESIGN AND ENVIRONMENT

Standard 701306.

Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions, shall be removed, covered, or turned from the view of the motorists. [SS pg. 569 / 701.04]
2. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. . . . At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 570 / 701.08]
3. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 571 / 701.13]
4. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 572 / 701.13 (a)]
5. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 573 / 701.14]
6. “NO PASSING ZONES NOT STRIPED NEXT _ MILES” sign. [SS pg. 576 / 701.17(c)]
7. Prime Coat. “FRESH OIL” (W21-2) signs shall be erected when prime and fine aggregate are applied to pavement that is open to traffic. The signs shall remain until tracking of the prime ceases as directed by the Engineer. The signs shall be erected a minimum of 500 ft (150 m) preceding the start of the prime. [SS pg. 576 / 701.17(c)(1)]
8. Cold Milling. “ROUGH GROOVED SURFACE” sign. [SS pg. 576 / 701.17(c)(2)]

FOR INFORMATIONAL USE ONLY



- TYPICAL APPLICATIONS**
- Landscaping work
 - Utility work
 - Pavement marking
 - Weed spraying
 - Roadometer measurements
 - Debris cleanup
 - Crack pouring

SYMBOLS

- Arrow board (Hazard Mode only)
- Truck with headlights, emergency flashers and flashing amber light. (Visible from all directions)
- 450x450 (18x18) min. orange flag (use when guide wheels used)
- Truck mounted attenuator

GENERAL NOTES

This Standard is used where any vehicle, equipment, workers or their activities will require a continuous moving operation where the average speed is greater than 5 km/h (3 mph).

* Distance varies depending on terrain and susceptibility of pavement marking or crack sealant to wheeltracking.

For shoulder operations not encroaching on the pavement, use DETAIL A, Standard 701425.

All dimensions are in millimeters (inches) unless otherwise shown.

Illinois Department of Transportation

APPROVED: *[Signature]* 2000
 ENGINEER OF OPERATIONS

APPROVED: *[Signature]* 2000
 ENGINEER OF STRUCTURAL DEVELOPMENT

ISSUED: 1-1-97

10

DATE	REVISIONS
1-1-00	Elim. speed restrictions in Standard title.
1-1-99	Removed front truck TMA.

**LANE CLOSURE 2L, 2W
MOVING OPERATIONS-DAY ONLY**

STANDARD 701311-02

Standard 701311.

Various Specifications:

Truck Mounted Attenuators. Trailing vehicles shall be between 200 and 500 ft (60 and 150 m) behind the vehicle ahead or the workers. [SS pg. 574 / 701.15(h)]

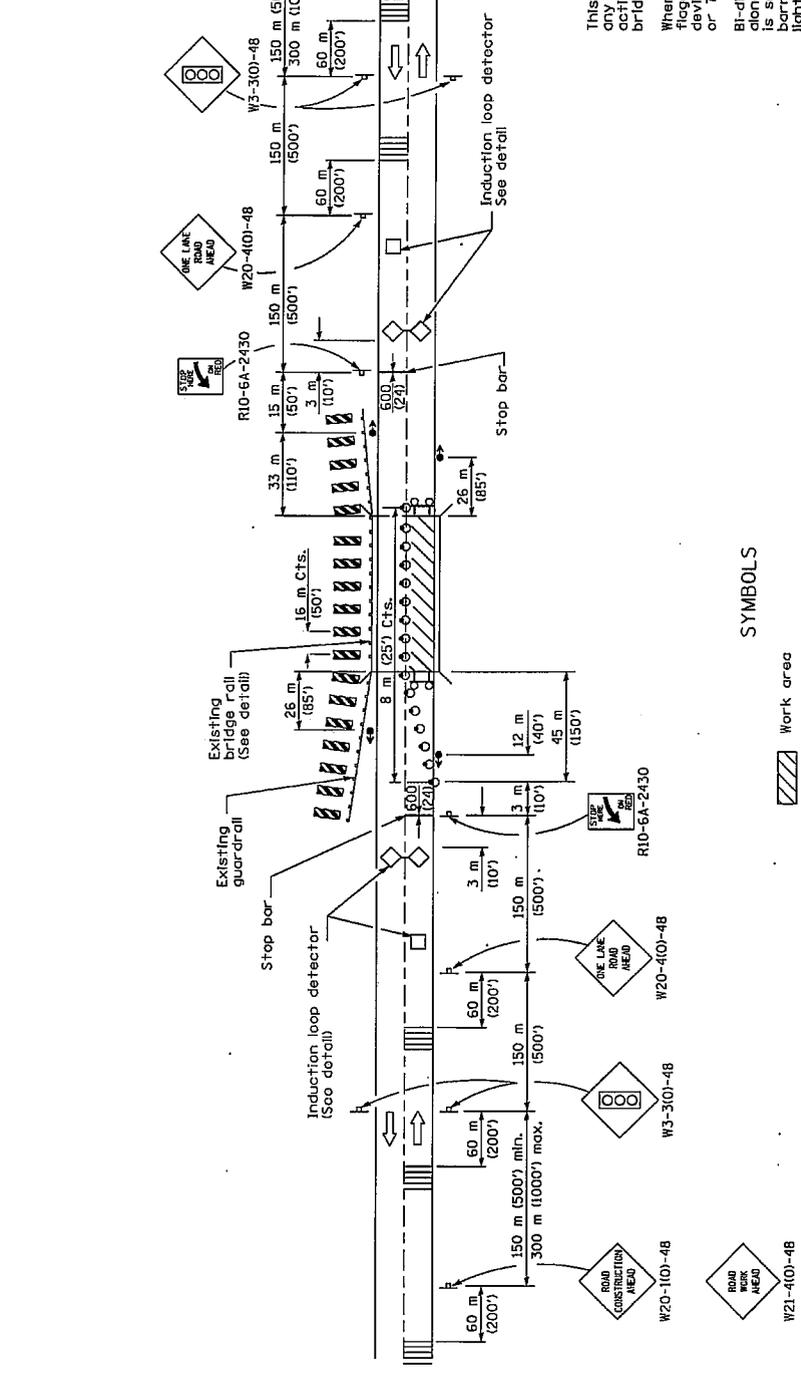
General Information:

During pavement marking operations, WET PAINT signs with appropriate arrow(s) shall be mounted on the back of the striper and the following vehicle where necessary to reduce tracking.

FOR INFORMATIONAL USE ONLY

For maintenance projects
W21-4(01)-4B

For contract construction projects
W20-1(01)-4B



GENERAL NOTES

This Standard is used where, at any time any vehicle, equipment, workers or their activities will encroach on one lane of a bridge and traffic signals are required. When traffic signals are not in operation, flaggers shall be used and traffic control devices shall conform to Standard 701201 or 701206.

Bi-directional lights shall be used at night along the centerline where the work area is separated from the traveled lane using barricades or drums. Monodirectional lights shall be used at night on all other barricades or drums.

Existing or temporary pavement marking shall be on both sides of the open lane from stop bar to stop bar.

All dimensions are in millimeters (inches) unless otherwise shown.

SYMBOLS

- ▨ Work area
- Sign
- Barricade, or drum with steady burning lights
- ◻ Type III barricade with flashing lights
- Traffic signal
- ▨ Temporary rumble strip (when specified)
- ◻ Induction loop detector
- ▭ Vertical panel (back to back)

11

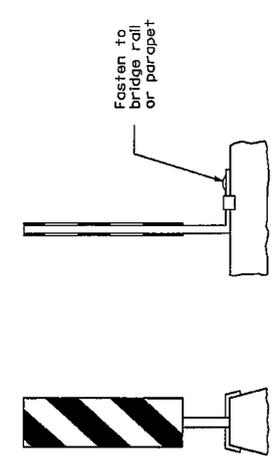
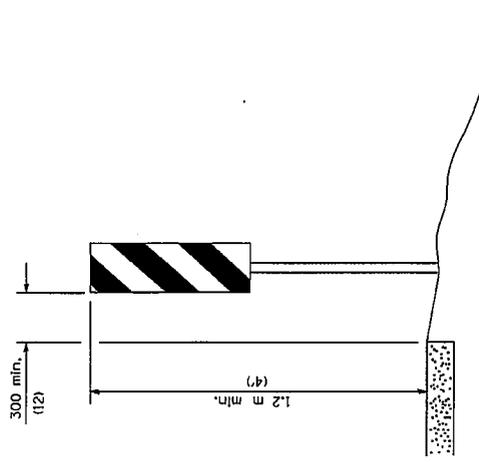
DATE	REVISIONS
1-1-05	Revised notes, deleted pavement markers and advisory speed sign.
1-1-01	Shaded var. pan. Remv. note "when specified" on temp. rumble strip.

LANE CLOSURE, 2L, 2W, BRIDGE REPAIR, FOR SPEEDS ≥ 45 MPH
(Sheet 1 of 2)

STANDARD 701316-03

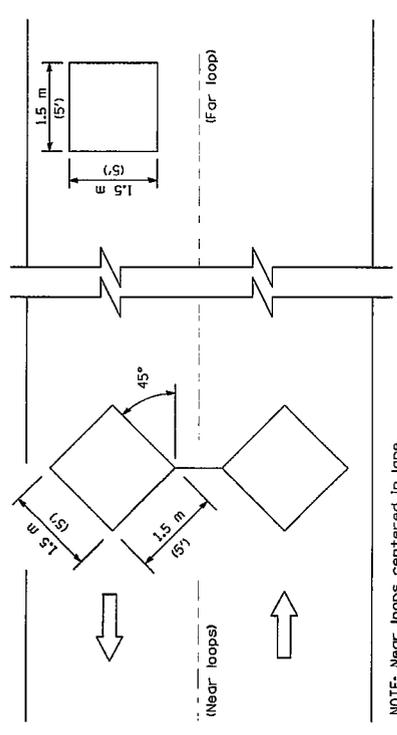
Illinois Department of Transportation
ISSUED 1-1-97

APPROVED JANUARY 1, 2005
ENGINEER OF OPERATIONS
APPROVED JANUARY 1, 2005
ENGINEER OF DESIGN AND ENVIRONMENT



(Suggested mounting detail)

VERTICAL PANELS



NOTE: Near loops centered in lane.

INDUCTION LOOP DETECTOR (TYPICAL)

(See traffic control plan for placement)

SEQUENCE OF OPERATIONS						
PHASE	A			B		
INTERVAL	1	2	3	4	5	6
NORTHBOUND OR EASTBOUND	G	Y	R	R	R	R
SOUTHBOUND OR WESTBOUND	R	R	R	C	Y	R

All dimensions are in millimeters (inches) unless otherwise shown.

LANE CLOSURE, 2L, 2W,
BRIDGE REPAIR,
FOR SPEEDS > 45 MPH
(Sheet 2 of 2)

STANDARD 701316-03

Illinois Department of Transportation		ISSUED 1-1-97	
APPROVED	JANUARY 1, 2005	APPROVED	JANUARY 1, 2005
ENGINEER OF REVISIONS	<i>[Signature]</i>	ENGINEER OF REVISIONS	<i>[Signature]</i>
APPROVED	JANUARY 1, 2005	APPROVED	JANUARY 1, 2005
ENGINEER OF DESIGN AND ENVIRONMENT		ENGINEER OF DESIGN AND ENVIRONMENT	

Standard 701316.

The exact location of the signals, detector loops, stop bars, and signs shall be as directed by the Engineer. The locations shall also be adjusted as required for stage construction. [SS pg. 579 - 582 / 701.18(b)]

The Engineer shall be notified at least 72 hours in advance of placing the signals in operation and at least one week prior to a traffic lane width reduction.

Any damage to the temporary traffic signals from any cause shall be repaired at no additional cost to the Department. If at any time the Contractor fails to perform any work deemed necessary by the Engineer to keep the temporary traffic signals in proper operating condition, the Department reserves the right to have other electrical Contractors perform the needed work, and the cost will be deducted from compensation due or which may become due the Contractor under the contract.

During daytime operations when workers are present, the Engineer may allow Type I or Type II barricades to be placed parallel to the centerline. Cones may be substituted for barricades at half the barricade spacing during the daytime operations.

Lane Closure on Two-Way, Two-Lane Rural Road. The Contractor shall furnish, install, maintain, and remove temporary traffic signals including a traffic actuated controller, a cabinet, detector amplifiers, and other associated equipment as listed below and on Standard 701316 for each location specified. The Contractor shall have available one spare controller and cabinet. The Contractor shall retain ownership of all traffic control equipment, miscellaneous accessories, and the installation methods shall be according to the following.

a. Traffic Signal Heads. Two signal heads shall be provided for each mainline approach and for each sideroad within the designated work area. All signal faces shall have new lamps when installed. When the signals are not operating, the signal head shall be hooded according to Article 880.03 and the "SIGNAL AHEAD" sign covered or removed. The left signal head shall be mounted at a height of 10 ft (3.1 m) above the road surface measured to the bottom of the signal head. The right signal head shall be mounted at a height of 14 ft (4.3 m) above the road surface. Back plates will be required on all signals.

The right signal head shall be aimed so the centers of the light beams of the indications are directed toward a point in the center of the approach lane 500 ft (150 m) in advance of the signal. The left indication shall be aimed at a point in the center of the approach lane 100 ft (30 m) in advance of the stop line.

b. Lenses. All lenses shall be 12 in. (300 mm) nominal diameter.

Standard 701316. Continued

c. Wire and Cable. The Contractor shall supply all overhead and underground wiring for both signal circuits and loop detector lead-ins. The electric cable shall be aerially suspended, at a minimum height of 8 ft (2.5 m) and as close to the right-of-way line as possible. When the electric cable crosses a roadway or entrance, it shall be aerially suspended, at a minimum height of 18 ft (5.5 m), according to the local utility requirements, or placed in a trench with a minimum of 2 in. (50 mm) of cover, or protected in a manner approved by the Engineer.

d. Mounting. The controller shall be mounted on a post, pole, or temporary concrete foundation. The signal heads shall be mounted on 25 ft (7.5 m) standard tubular steel posts or on a minimum Class 4 wood pole, when overhead wiring is used between signals. Alternative methods of mounting the cabinet or signal heads shall be approved by the Engineer. The supports shall be kept in a vertical position for the duration of the project.

e. Service Installation. The Contractor shall be responsible for the installation and cost of 110 V electrical service. When the service cable from the controller to the power source is suspended overhead, the line height shall not be less than 8 ft (2.5 m) above the ground and located as close to the right-of-way lines as practicable. When the cable crosses a roadway or entrance, the cable shall be raised to a minimum height of 18 ft (5.5 m) or pass under the pavement through a culvert opening. Portable power generating equipment may be used for a short period of time until local power is available, provided at least one person is present at all times at the site to ensure proper operation.

f. Traffic Signal Controller.

1. The controller shall be a standard eight phase NEMA controller housed in a weather proof cabinet. The traffic signals shall dwell in All-Red. The long All-Red intervals shall be adjustable up to 99 seconds in one second increments. Long All-Red intervals shall be obtained by using a trail green feature or an equivalent, or by using dummy phases. The long All-Red interval shall be pre-empted if the previous movement is detected before the conflicting movement is detected and shall cause the previous movement to return to the green display with a minimum four second delay. When a conflict or failure is detected, the signal shall display a flashing All-Red. When an additional phase is used for a side road movement, only one long red interval shall be used between active phases on each side of the work area.

All devices used, in lieu of controller software to produce this sequence, shall be mounted within the cabinet but not within the controller. The Contractor shall provide an operational demonstration of the controller assembly for the Engineer subsequent to installation and prior to being placed into operation. The Contractor shall program the controller, trouble shoot, and correct any problems that arise, and verify the equipment is functioning according to the contract. If any controller malfunction occurs during the time of operation or in the event of a power failure, the Contractor shall, without delay, provide flaggers for traffic control and immediately install a replacement controller to operate the signals.

Standard 701316. Continued

2. When specified, the Department will furnish the traffic actuated controller. The controller, complete with loop detector-amplifiers and pole mount cabinet, shall be picked up and returned upon completion of the project to the location designated on the plans. The Contractor shall provide notice to the Department at least two weeks in advance of requiring the traffic actuated controller. The Contractor shall be responsible for maintenance of the controller and all related equipment within the controller cabinet. The controller shall be inspected by the Contractor and Engineer subsequent to installation and prior to being placed into operation. Any malfunction of the Department owned equipment revealed during the inspection by the Contractor shall be repaired and will be paid for according to Article 109.04. The Contractor shall be responsible for any damage to the Department-owned equipment as a result of negligence or poor workmanship during installation at his/her expense. The Contractor shall provide all maintenance required, at his/her expense, to keep the Department-owned equipment functioning properly after being placed in operation.

g. Detector Loops. Three detector loops shall be installed on each approach as shown on the plans. The near detector loops shall be placed 12 in. (300 mm) from the centerline and the far loop shall be placed 12 in. (300 mm) from the edge line. Each loop shall be connected to a separate detector amplifier channel. Call delay feature shall be used for the loops nearest the stop lines and defeated during the green of that phase. An alternate method of detection may be used if it has been demonstrated and approved by the Department.

The loop detector lead-in cable shall be protected from construction and maintenance activities. In the event of detector loop failure, the Contractor shall have 48 hours to repair or replace the loops. Upon completion of the project, the detector loop shall be terminated in such a manner as to provide for future use. [SS pg. 579 -582 / 701.18(b)]

Various Specifications:

1. When work operations exceed four days, all signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the engineer. [SS pg. 572 / 701.14]

2. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

3. Channelizing devices for nighttime lane closures on two-lane roads. Lights required: Steady burn bi-directional lights. [SS pg. 575 / 701.16]

4. Devices in nighttime lane closure tapers. Lights required: Steady burn mono-directional lights. [SS pg. 575 / 701.16]

Standard 701316. Continued

General Information:

Temporary rumble strips conforming to Standard 702001 are recommended where poor alignment or restricted sight distance indicate potential operational problems.

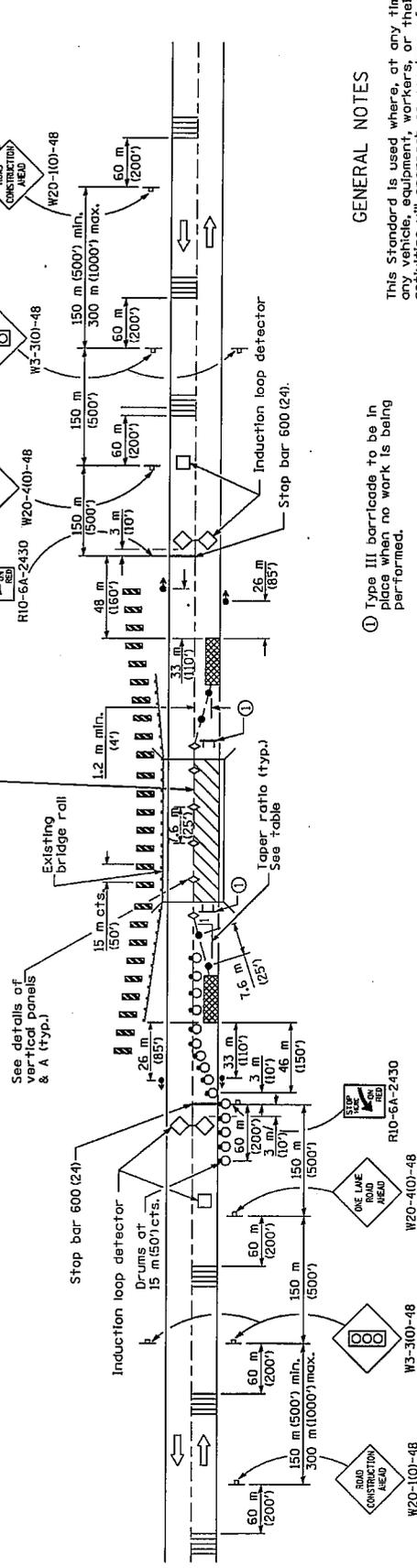
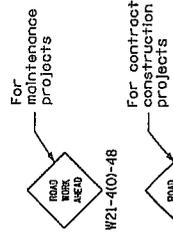
6

FOR INFORMATIONAL USE ONLY

TEMPORARY CONCRETE BARRIER	
POSTED SPEED	TAPER RATIO
70 km/h (40 mph) AND ABOVE	12:1
BELOW 70 km/h (40 mph)	8:1

SEQUENCE OF OPERATIONS					
PHASE	A	B			
INTERVAL	1	2	3	4	5
NORTHBOUND OR EASTBOUND	G	Y	R	R	R
SOUTHBOUND OR WESTBOUND	R	R	R	G	Y

Where temporary bridge roll is specified it shall be connected to the temporary concrete barrier using a traffic barrier terminal Type II.



GENERAL NOTES

This Standard is used where, at any time any vehicle, equipment, workers, or their activities will encroach on one lane of a bridge. Traffic signals and a positive barrier are required.

When traffic signals are not in operation, flaggers shall be used and traffic control devices shall conform to Standard 701201 or 701206.

Temporary concrete barrier shall be according to Standard 704001.

Bi-directional lights shall be used at night along the centerline where the work area is separated from the travel lane using barricades or drums. Non-directional lights shall be used at night on all other barricades or drums.

Existing or temporary pavement marking shall be on both sides of the open lane from stop bar to stop bar.

All dimensions are in millimeters (inches) unless otherwise shown.

① Type III barricade to be in place when no work is being performed.

SYMBOLS

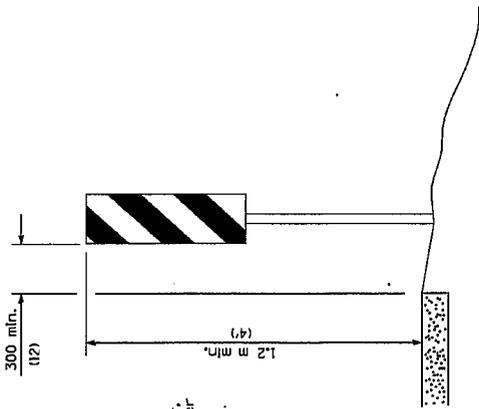
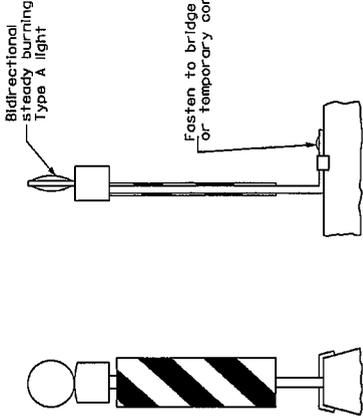
- Work area
- Sign
- Type III barricade
- Drum with steady burning light
- Traffic signal
- Temporary rumble strip (when specified)
- Induction loop detector
- Double vertical panel
- Type C Bidirectional reflector
- Temporary concrete barrier
- Impact attenuator
- Steady burning lights and double vertical panels

DATE	REVISIONS
1-1-05	Revised notes, deleted pavement markers and advisory speed sign.
10-1-04	Removed 9 m (30') access and made impact attenuator generic.

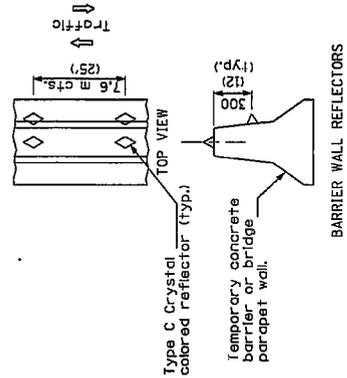
ILLINOIS DEPARTMENT OF TRANSPORTATION
 APPROVED: *[Signature]* JANUARY 1, 2005
 ENGINEER OF OPERATIONS
 APPROVED: *[Signature]* JANUARY 1, 2005
 ENGINEER OF DESIGN AND ESTIMATION

ISSUED 1-1-97
 STANDARD 701321-08
 (Sheet 1 of 2)
 LANE CLOSURE, 2L, 2W,
 BRIDGE REPAIR WITH BARRIER

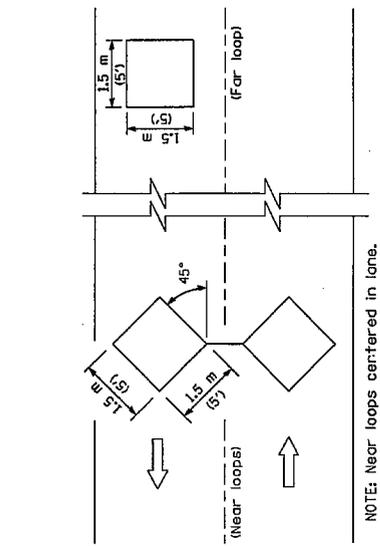
12



VERTICAL PANELS



DETAIL A



INDUCTION-LOOP DETECTOR (TYPICAL)

(See traffic control plan for placement)

LANE CLOSURE, 2L, 2W,
BRIDGE REPAIR WITH BARRIER
(Sheet 2 of 2)

STANDARD 701321-08

Illinois Department of Transportation APPROVED ENGINEER OF TRANSPORTATION APPROVED ENGINEER OF DESIGN AND ENVIRONMENT	JUNE 27, 2005 	ISSUED 1-1-97
	ENGINEER OF TRANSPORTATION 	2005

Standard 701321.

The exact location of the signals, detector loops, stop bars, and signs shall be as directed by the Engineer. The locations shall also be adjusted as required for stage construction. [SS pg. 579-582 / 701.18(b)]

The Engineer shall be notified at least 72 hours in advance of placing the signals in operation and at least one week prior to a traffic lane width reduction.

Any damage to the temporary traffic signals from any cause shall be repaired at no additional cost to the Department. If at any time the Contractor fails to perform any work deemed necessary by the Engineer to keep the temporary traffic signals in proper operating condition, the Department reserves the right to have other electrical Contractors perform the needed work, and the cost will be deducted from compensation due or which may become due the Contractor under the contract.

Lane Closure on Two-Way, Two-Lane Rural Road. The Contractor shall furnish, install, maintain, and remove temporary traffic signals including a traffic actuated controller, a cabinet, detector amplifiers, and other associated equipment as listed below and on Standard 701321 for each location specified. The Contractor shall have available one spare controller and cabinet. The Contractor shall retain ownership of all traffic control equipment, miscellaneous accessories, and the installation methods shall be according to the following.

a. Traffic Signal Heads. Two signal heads shall be provided for each mainline approach and for each sideroad within the designated work area. All signal faces shall have new lamps when installed. When the signals are not operating, the signal head shall be hooded according to Article 880.03 and the "SIGNAL AHEAD" sign covered or removed. The left signal head shall be mounted at a height of 10 ft (3.1 m) above the road surface measured to the bottom of the signal head. The right signal head shall be mounted at a height of 14 ft (4.3 m) above the road surface. Back plates will be required on all signals.

The right signal head shall be aimed so the centers of the light beams of the indications are directed toward a point in the center of the approach lane 500 ft (150 m) in advance of the signal. The left indication shall be aimed at a point in the center of the approach lane 100 ft (30 m) in advance of the stop line.

b. Lenses. All lenses shall be 12 in. (300 mm) nominal diameter.

c. Wire and Cable. The Contractor shall supply all overhead and underground wiring for both signal circuits and loop detector lead-ins. The electric cable shall be aerially suspended, at a minimum height of 8 ft (2.5 m) and as close to the right-of-way line as possible. When the electric cable crosses a roadway or entrance, it shall be aerially suspended, at a minimum height of 18 ft (5.5 m), according to the local utility requirements, or placed in a trench with a minimum of 2 in. (50 mm) of cover, or protected in a manner approved by the Engineer.

Standard 701321. Continued

d. Mounting. The controller shall be mounted on a post, pole, or temporary concrete foundation. The signal heads shall be mounted on 25 ft (7.5 m) standard tubular steel posts or on a minimum Class 4 wood pole, when overhead wiring is used between signals. Alternative methods of mounting the cabinet or signal heads shall be approved by the Engineer. The supports shall be kept in a vertical position for the duration of the project.

e. Service Installation. The Contractor shall be responsible for the installation and cost of 110V electrical service. When the service cable from the controller to the power source is suspended overhead, the line height shall not be less than 8 ft (2.5 m) above the ground and located as close to the right-of-way lines as practicable. When the cable crosses a roadway or entrance, the cable shall be raised to a minimum height of 18 ft (5.5 m) or pass under the pavement through a culvert opening. Portable power generating equipment may be used for a short period of time until local power is available, provided at least one person is present at all times at the site to ensure proper operation.

f. Traffic Signal Controller.

1. The controller shall be a standard eight phase NEMA controller housed in a weather proof cabinet. The traffic signals shall dwell in All-Red. The long All-Red intervals shall be adjustable up to 99 seconds in one second increments. Long All-Red intervals shall be obtained by using a trail green feature or an equivalent, or by using dummy phases. The long All-Red interval shall be preempted if the previous movement is detected before the conflicting movement is detected and shall cause the previous movement to return to the green display with a minimum four second delay. When a conflict or failure is detected, the signal shall display a flashing All-Red. When an additional phase is used for a side road movement, only one long red interval shall be used between active phases on each side of the work area.

All devices used, in lieu of controller software to produce this sequence, shall be mounted within the cabinet but not within the controller. The Contractor shall provide an operational demonstration of the controller assembly for the Engineer subsequent to installation and prior to being placed into operation. The Contractor shall program the controller, trouble shoot, and correct any problems that arise, and verify the equipment is functioning according to the contract. If any controller malfunction occurs during the time of operation or in the event of a power failure, the Contractor shall, without delay, provide flaggers for traffic control and immediately install a replacement controller to operate the signals.

2. When specified, the Department will furnish the traffic actuated controller. The controller, complete with loop detector-amplifiers and pole mount cabinet, shall be picked up and returned upon completion of the project to the location designated on the plans. The Contractor shall provide notice to the Department at least two weeks in advance of requiring the traffic actuated controller. The

Standard 701321. Continued

Contractor shall be responsible for maintenance of the controller and all related equipment within the controller cabinet. The controller shall be inspected by the Contractor and Engineer subsequent to installation and prior to being placed into operation. Any malfunction of the Department owned equipment revealed during the inspection by the Contractor shall be repaired and will be paid for according to Article 109.04. The Contractor shall be responsible for any damage to the Department-owned equipment as a result of negligence or poor workmanship during installation at his/her expense. The Contractor shall provide all maintenance required, at his/her expense, to keep the Department-owned equipment functioning properly after being placed in operation.

g. Detector Loops. Three detector loops shall be installed on each approach as shown on the plans. The near detector loops shall be placed 12 in. (300 mm) from the centerline and the far loop shall be placed 12 in. (300 mm) from the edge line. Each loop shall be connected to a separate detector amplifier channel. Call delay feature shall be used for the loops nearest the stop lines and defeated during the green of that phase. An alternate method of detection may be used if it has been demonstrated and approved by the Department.

The loop detector lead-in cable shall be protected from construction and maintenance activities. In the event of detector loop failure, the Contractor shall have 48 hours to repair or replace the loops. Upon completion of the project, the detector loop shall be terminated in such a manner as to provide for future use. [SS pg. 579-582 / 701.18(b)]

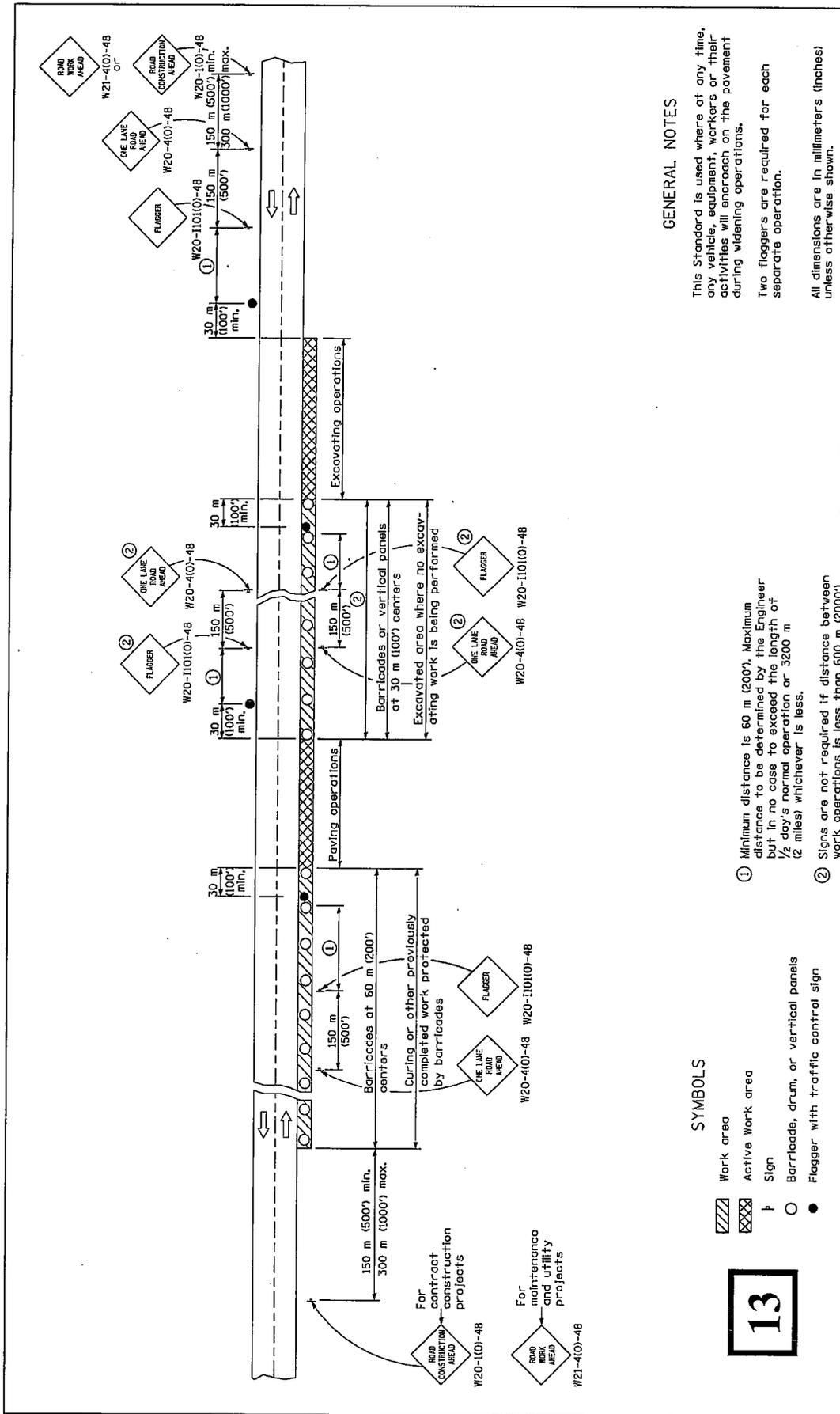
Various Specifications:

1. All existing pavement markings which conflict with revised traffic pattern shall be removed according to Section 783. [SS pg. 569 / 701.04]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

General Information:

Temporary rumble strips conforming to Standard 702001 are recommended where poor alignment or restricted sight distance indicates potential operational problems.

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach on the pavement during widening operations.

Two flaggers are required for each separate operation.

All dimensions are in millimeters (inches) unless otherwise shown.

- ① Minimum distance is 60 m (200'). Maximum distance to be determined by the Engineer but in no case to exceed the length of 1/2 day's normal operation or 3200 m (2 miles) whichever is less.
- ② Signs are not required if distance between work operations is less than 600 m (2000') unless restricted sight distance exists.

SYMBOLS

- Work area
- Active Work area
- Sign
- Barricade, drum, or vertical panels
- Flagger with traffic control sign

13

Illinois Department of Transportation	
APPROVED	ISSUED 1-1-97
ENGINEER OF OPERATIONS	2005
APPROVED	2005
ENGINEER OF DESIGN AND SURVEYING	

DATE	REVISIONS
1-1-05	Moved flaggers off roadway and deleted FLAGGER SYMBOL sign.
1-1-99	Rev. RCA sign spacing.

**LANE CLOSURE, 2L, 2W,
PAVEMENT WIDENING,
FOR SPEEDS ≥ 45 MPH**

STANDARD 701326-02

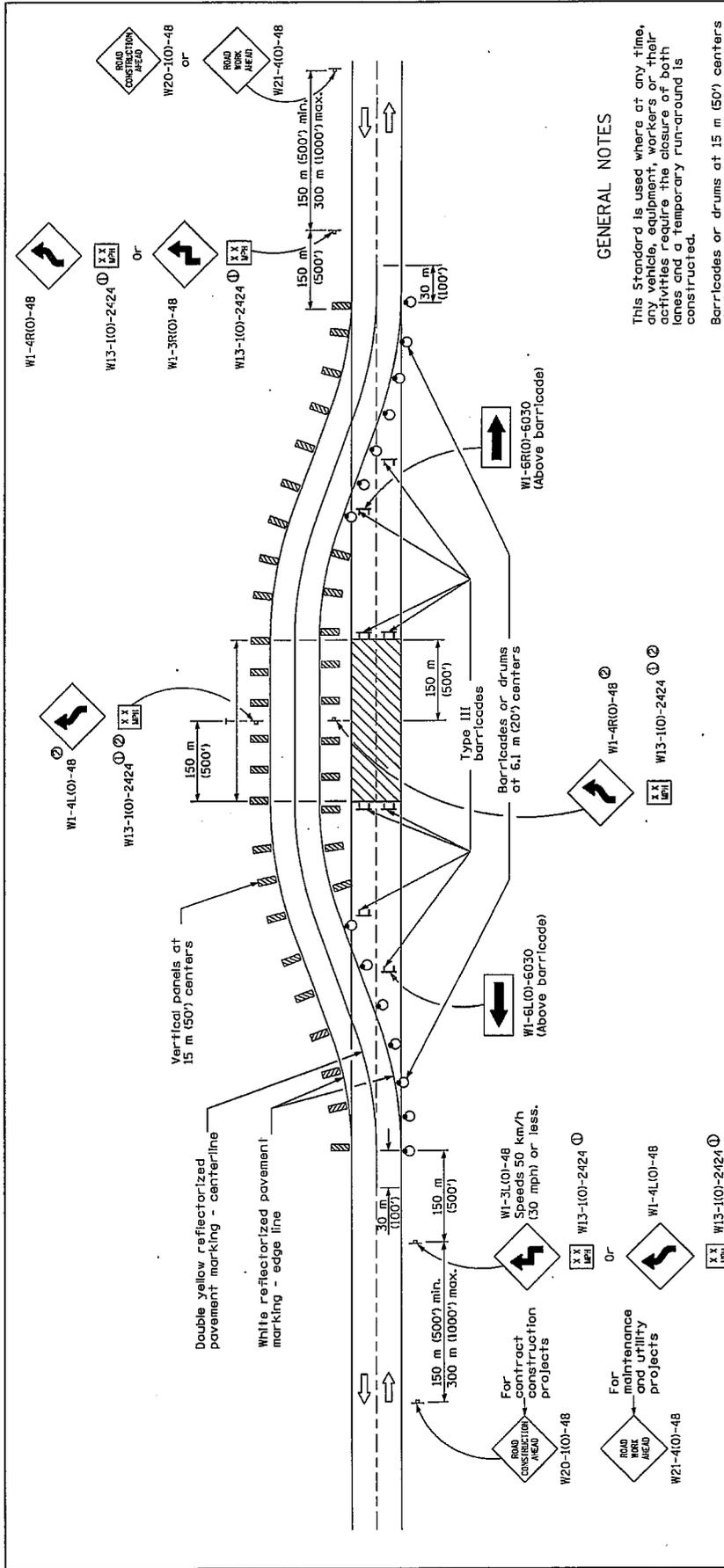
Standard 701326.

No paving or excavating operations shall be performed at night unless authorized by the Engineer. [SS pg. 582 / 701.18(c)]

Various Specifications:

1. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. . . . At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 570 / 701.08]
2. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 571 / 701.13]
3. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 572 / 701.13(a)]
4. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
5. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities require the closure of both lanes and a temporary run-around is constructed.

Barricades or drums at 15 m (50') centers shall be used in lieu of vertical panels on the approach side if they are to be placed on new or existing pavement.

Where the tangent distance on the temporary run-around exceeds 180 m (600'), crystal delineators at 15 m (50') centers may be substituted for the vertical panels, or the spacing between vertical panels may be increased to 30 m (100') within the limits of the tangent.

All dimensions are in millimeters (inches) unless otherwise shown.

- ① The advisory speed to be shown below the reverse curve (turn) signs shall be determined at the site and approved by the Engineer.
- ② These signs are not required when T is less than 300 m (1000').

SYMBOLS

- Work area
- Sign
- Barricade or drum with monodirectional steady burning light
- Vertical panel
- Type III barricade

TYPICAL APPLICATIONS

- Bridge construction
- CUvert construction

14

DATE	REVISIONS
1-1-05	Deleted DETOUR AHEAD sign.
1-1-99	Revised Type III barricade symbol, title, & sign spacing.

LANE CLOSURE, 2L, 2W, WITH RUN-AROUND, FOR SPEEDS ≥ 45 MPH

STANDARD 701331-02

Illinois Department of Transportation
 APPROVED: *[Signature]* JANUARY 1, 2005
 ENGINEER OF OPERATIONS
 APPROVED: *[Signature]* JANUARY 1, 2005
 ENGINEER OF DESIGN AND ENVIRONMENT

Standard 701331.

Various Specifications:

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]

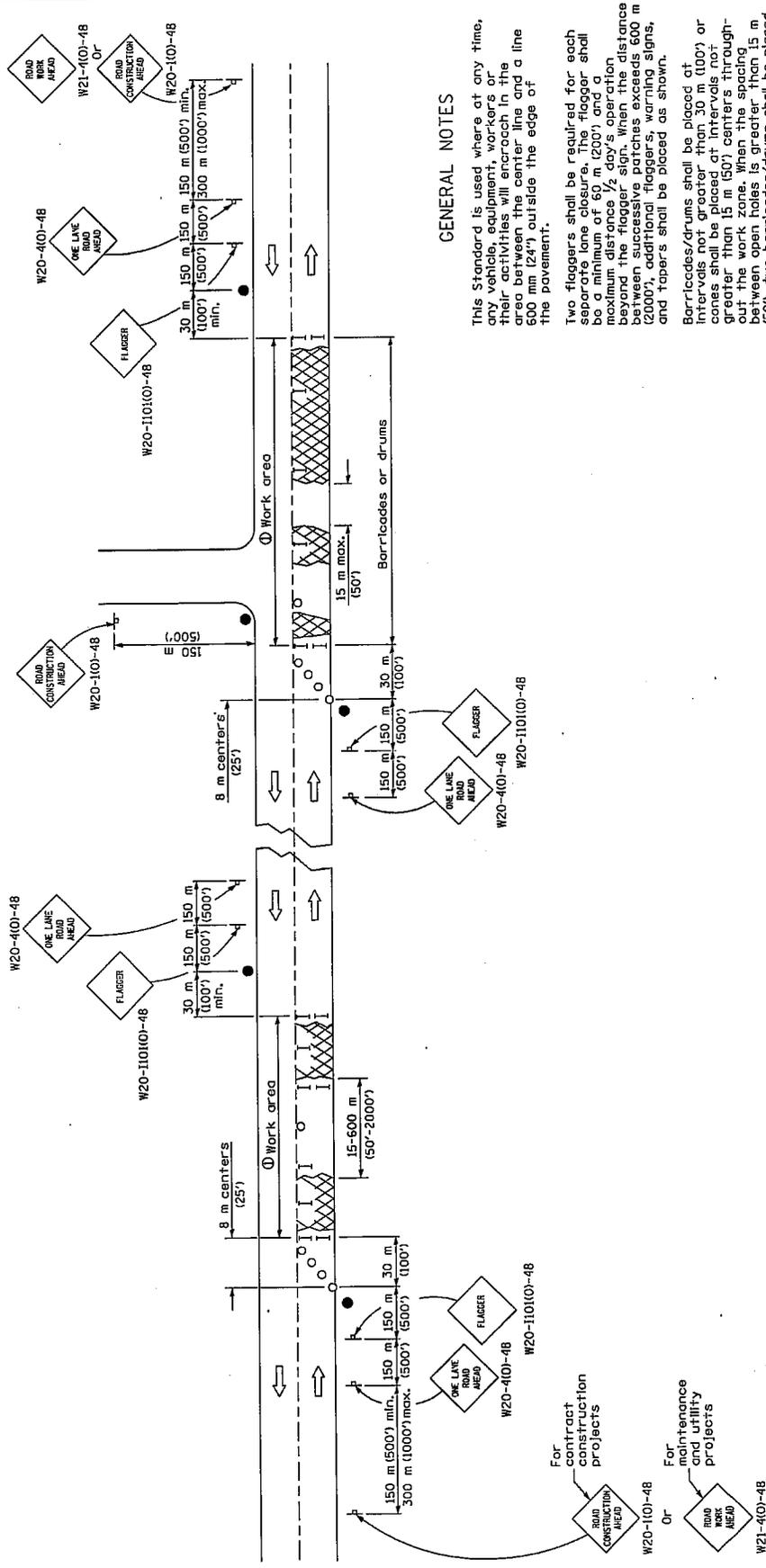
2. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

General Information:

1. No passing zones shall be striped where sight distance restrictions warrant.

2. Edge and center line pavement markings are required for this Standard.

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach in the area between the center line and a line 600 mm (24") outside the edge of the pavement.

Two flaggers shall be required for each separate lane closure. The flagger shall be minimum of 6 m (20') in front of the work area. The flagger shall be placed beyond the flagger sign, when the distance between successive patches exceeds 600 m (2000'). Additional flaggers, warning signs, and tapers shall be placed as shown.

Barricades/drums shall be placed at intervals not greater than 30 m (100') or greater than 15 m (50') centers throughout the work zone. When the spacing is greater than 15 m (50'), barricades/drums shall be placed in front of each open hole and one on the backside close to the centerline. When the open hole is greater than 3 m (10') parallel to the centerline, one barricade/drum shall be placed in each hole. For large holes, barricades/drums shall be placed at 15 m (50') centers.

All dimensions are in millimeters (inches) unless otherwise shown.

SYMBOLS

- ▨ Patches
- ⊥ Sign
- Flagger with traffic control sign
- I Barricade or drum
- Cone, barricade or drum

⊙ 800 m (1/2 mile) maximum

TYPICAL APPLICATIONS

Patching

DATE	REVISIONS
1-1-05	Deleted FLAGGER SYMBOL sign and revised sign spacing.
1-1-00	Added slideroad and related details.

LANE CLOSURE, 2L, 2W, WORK AREAS IN SERIES, FOR SPEEDS ≥ 45 MPH

STANDARD 701336-04

15

Illinois Department of Transportation
 APPROVED: [Signature] JANUARY 1, 2005
 ENGINEER OF OPERATIONS
 APPROVED: [Signature] JANUARY 1, 2005
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED: 1-1-97

Standard 701336.

Two flaggers shall be required for each separate construction operation. The flagger shall be a minimum of 200 ft (60 m) and a maximum distance of 1/2 day's operation beyond the flagger sign and a minimum of 100 ft (30 m) in advance of the work party.

Under restricted sight distance conditions, additional devices may also be required for distances less than 2000 ft (600 m) at the discretion of the Engineer.

During periods when workers are present all work areas shall be delineated by cones or barricades along the centerline. [SS pg. 582 / 701.18(d)]

Various Specifications:

1. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 571 / 701.13]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]
4. Pavement Patching: [SS pg. 578 / 701.17(e)]

FOR INFORMATIONAL USE ONLY

Standard 701400.

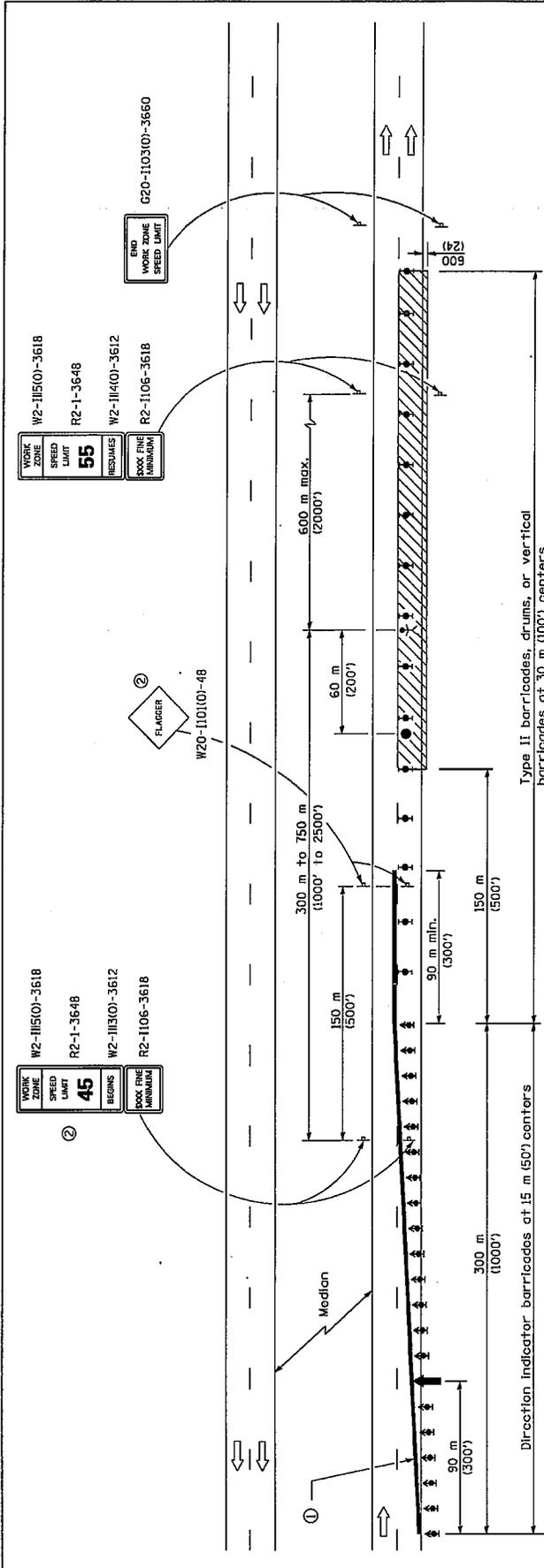
Various Specifications:

First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

General Information:

1. This Standard is to be used with Standards 701401, 701402, 701406, 701416, and 701446.
2. Check your contract documents for special provisions which apply regarding this standard. The "Work Zone Public Information Sign" and the "Portable Changeable Message Sign" are included with the cost of the Standard.

FOR INFORMATIONAL USE ONLY



See Standard 701400 for approach
Start of lane closure taper

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊗ Worker
- ⊥ Sign
- ▲ Direction indicator barricade with steady burn monodirectional light
- ⊥ Type II barricade, drum, or vertical barricade with steady burn monodirectional light
- Flagger with traffic control sign

- ① ReflectORIZED temporary pavement marking tape shall be placed throughout the taper and for 90 m (300') along-side the work area when the closure time is greater than fourteen days. The edge line shall be white for right lane closure and yellow for left lane closures. Temporary raised reflectORIZED pavement markers at 8 m (25') centers shall be used to supplement the pavement marking tape.
- ② Work Zone speed limit signs and FLAGGER signs shall be moved upstream to maintain the required spacing between the signs and the workers in each separate work activity.

GENERAL NOTES

This Standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 600 mm (24") of the edge of pavement.

This Standard must always be used in combination with Standard 701400.

This Standard also applies when work is being performed in the left lane. Under these conditions, the set up would be a mirror image to what is shown.

A check barricade shall be placed in the middle of the closed lane and at the shoulder at 300 m (1000') centers.

All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS
1-1-05	Revised the first general note.
4-15-04	Revised signs and notes.

**LANE CLOSURE,
FREEWAY/EXPRESSWAY**

STANDARD 701401-03



Illinois Department of Transportation

APPROVED: [Signature] JANUARY 1, 2005

ENGINEER OF OPERATIONS

APPROVED: [Signature] JANUARY 1, 2005

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

Standard 701401.

1. For overnight operations, cones may be substituted for barricades or drums at half the spacing during day operations. [SS pg. 582 / 701.18(e)(1)]
2. Multilane Pavement Resurfacing: For the construction of binder course, surface course and shoulder resurfacing on multilane pavements, this Standard shall be used from the beginning of business on Monday to 4:30 p.m. on Friday. Only Standards 701406 and 701421 shall be used from 4:30 p.m. Friday to start of business on Monday. [SS pg. 583 / 701.18(e)(2)]
3. Shoulder Upgrading and Replacement: The following shall apply to shoulder pipe underdrain installation and/or shoulder reconstruction on existing multilane divided highways.

The Contractor shall close the adjacent lane of pavement according to the Standard within the limits of the construction zone a) when required by the Contractor's operations and b) when no workers are present and the difference in elevation between the pavement and the shoulder and/or widening is greater than 12 in. (300).

During shoulder work on ramps, a minimum of two standard advance signs, a 48 in. (1.2-m) "RAMP CONSTRUCTION AHEAD", and a 48 in. (1.2-m) "FLAGGER AHEAD" or Flagger Symbol sign, and one flagger shall be used as directed by the Engineer. The work area shall be delineated by devices at 50 ft (15 m) spacings. Shoulder drop-offs greater than 1 ½ in. (40 mm) caused by the Contractor's operations will be allowed only on one side of the ramp at a time.

Standard 701401 will only be measured for payment where the average depth of shoulder reconstruction required by the plans, exclusive of any trench for pipe underdrain installation, is in excess of 3 in. (75 mm). Where such shoulder reconstruction is 3 in. (75 mm) or less, no open trench greater than 3 in. (75 mm) deep will be permitted overnight. If, because of unforeseen circumstances, an open trench greater than 3 in. (75 mm) deep should occur overnight, the Contractor shall, at no additional cost to the Department, close the adjacent traffic lane according to Standards 701400 and 701401 or according to Standard 701422.

Excavations greater than 3 in. (75 mm) in depth between the pavement and shoulder, including any trenches within the shoulder area, shall be restricted to one shoulder in each direction of travel. In addition, shoulder drop-offs greater than 1 ½ in. (40 mm) caused by the Contractor's operations will not be permitted over the winter shutdown.

The Contractor shall schedule the work so the lane closure at any one work area does not exceed five working days. The closure time may be exceeded for conditions beyond the Contractor's control, except if continual and persistent closures in excess of the five working days are made, the Engineer will initiate measures to delay or limit the daily production of the Contractor's operations.

All debris shall be removed from the shoulder and right-of-way prior to the removal of barricades, drums, or vertical panels. [SS pg. 583 / 701.18(e)(3)]

Standard 701401. Continued

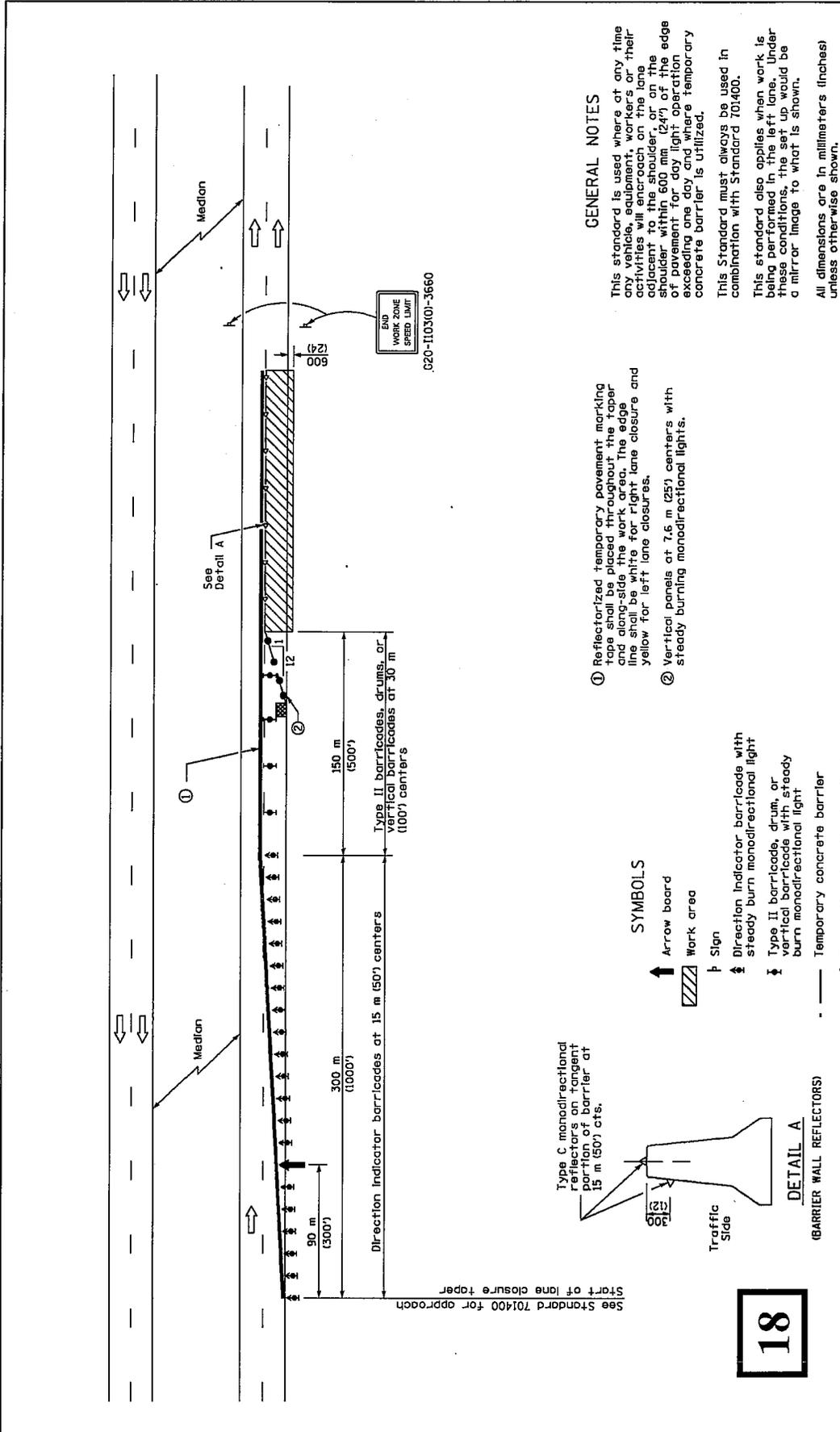
Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions, shall be removed, covered, or turned from the view of the motorists. [SS pg. 569 / 701.04]
2. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 571 / 701.13]
3. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. [SS pg. 572 / 701.13(b)]
4. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
5. Work Zone Speed Limit Signs. [SS pg. 573 / 701.14(b)]
6. Daylight operations. Lights Required: None. [SS pg. 575 / 701.16]
7. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]
8. "ROUGH GROOVED SURFACE" sign. [SS pg. 576 / 701.17(c)(2)]
9. Pavement Patching: [SS pg. 578 / 701.17(e)]
10. Where posted speeds are greater than 40 mph cones shall be a minimum of 28 in. (700 mm) in height. [MUTCD page 6F-31, Figure 6F-7]

General Information:

This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans will be required.

FOR INFORMATIONAL USE ONLY



**LANE CLOSURE,
FREEWAY/EXPRESSWAY,
WITH BARRIER**

STANDARD 701402-05

DATE	REVISIONS
4-15-04	Revised signs and notes.
4-1-04	Revised to provide consistency on freeway/expressway closures.

APPROVED: *[Signature]* 2004
 ENGINEER OF OPERATIONS
 APPROVED: *[Signature]* 2004
 ENGINEER OF DESIGN AND ENVIRONMENT

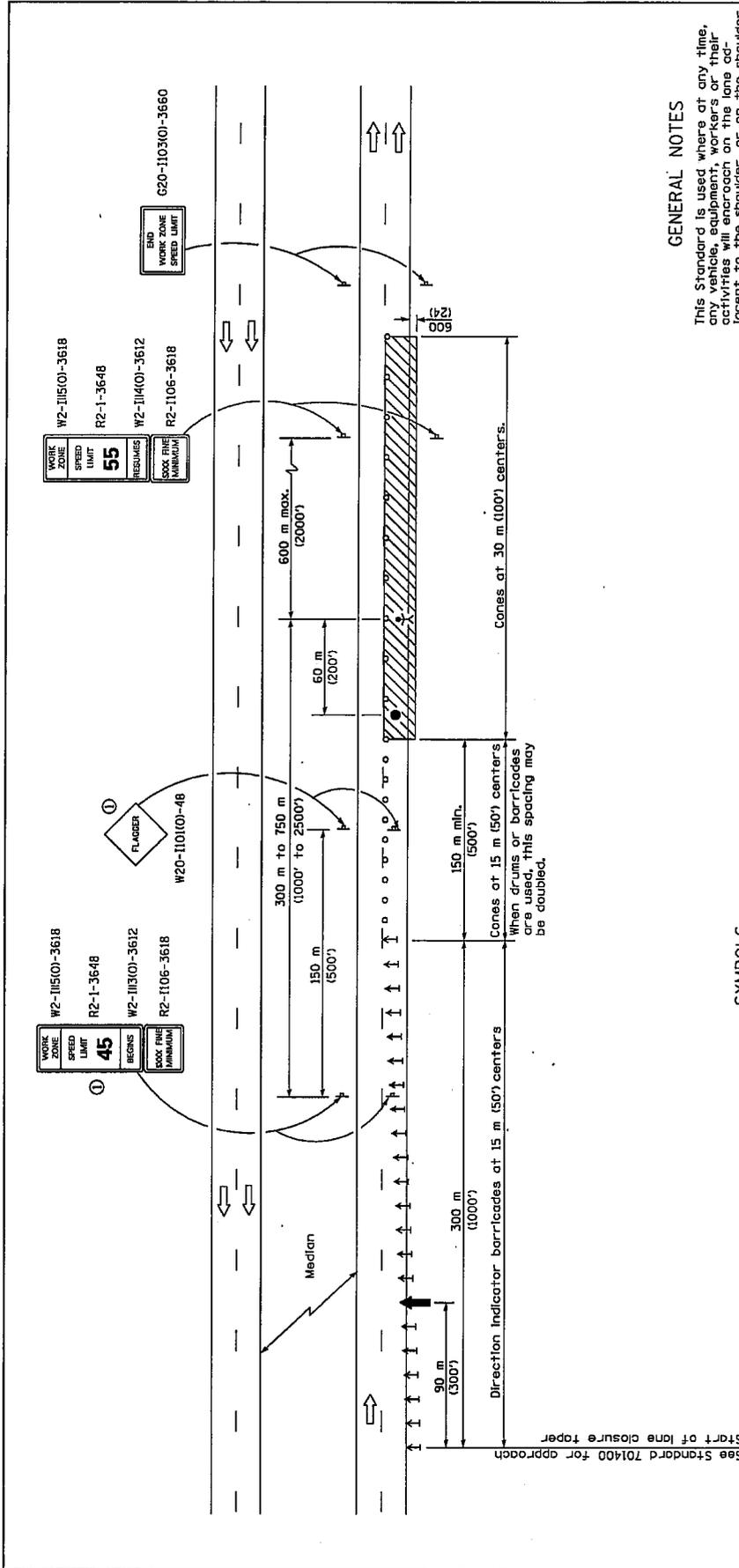
ISSUED 1-1-00

Standard 701402.

Various Specifications:

1. All existing pavement markings which conflict with the revised traffic pattern shall be removed according to Section 783. [SS pg. 569 / 701.04]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure.
Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

This Standard is used where, at any time, any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 600 mm (24") of the edge of pavement for day light operation.

This Standard must always be used in combination with Standard 701400.

This Standard also applies when work is being performed in the left lane, under these conditions, the set up would be a mirror image to what is shown.

All dimensions are in millimeters (inches) unless otherwise shown.

① Work zone speed limit signs and FLAGGER signs shall be moved as necessary to maintain the required spacing between the signs and the workers in each separate work activity.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊗ Worker
- ↑ Sign
- ↑ Direction indicator barricade
- Cone, drum or barricade
- Flagger with traffic control sign

TYPICAL APPLICATIONS

- Pavement patch
- Utility operations
- Bituminous resurfacing

19

DATE	REVISIONS
4-15-04	Revised signs.
4-1-04	Revised to provide consistency on freeway/expressway closures.

**LANE CLOSURE,
FREEWAY/EXPRESSWAY,
DAY OPERATIONS ONLY**

STANDARD 701406-04

Ontario Department of Transportation
 APPROVED: *[Signature]* 2004
 ENGINEER OF OPERATIONS
 APPROVED: *[Signature]* 2004
 SUPERVISOR OF SECURITY AND ENVIRONMENT

Standard 701406.

1. Multilane Pavement Resurfacing. For the construction of binder course, surface course and shoulder resurfacing on multilane pavements, this standard may be used at all times. [SS pg. 583 / 701.18(e)(2)]

2. Shoulder Upgrading and Replacement. The following shall apply to shoulder pipe underdrain installation and/or shoulder reconstruction on existing multilane divided highways.

The Contractor shall close the adjacent lane of pavement according to the Standard within the limits of the construction zone a) when required by the Contractor's operations and b) when no workers are present and the difference in elevation between the pavement and the shoulder and/or widening is greater than 12 in. (300 mm).

During shoulder work on ramps, a minimum of two standard advance signs, a 48 in. (1.2 m) "RAMP CONSTRUCTION AHEAD", and a 48 in. (1.2 m) "FLAGGER AHEAD" or Flagger Symbol sign, and one flagger shall be used as directed by the Engineer. The work area shall be delineated by devices at 50 ft (15 m) spacings. Shoulder drop-offs greater than 1 ½ in. (40 mm) caused by the Contractor's operations will be allowed only on one side of the ramp at a time.

Excavations greater than 3 in. (75 mm) in depth between the pavement and shoulder, including any trenches within the shoulder area, shall be restricted to one shoulder in each direction of travel. In addition, shoulder drop-offs greater than 1 ½ in. (40 mm) caused by the Contractor's operations will not be permitted over the winter shutdown.

The Contractor shall schedule the work so the lane closure at any one work area does not exceed five working days. The closure time may be exceeded for conditions beyond the Contractor's control, except if continual and persistent closures in excess of the five working days are made, the Engineer will initiate measures to delay or limit the daily production of the Contractor's operations.

All debris shall be removed from the shoulder and right-of-way prior to the removal of barricades, drums, or vertical panels. [SS pg. 583 / 701.18(e)(3)]

Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions, shall be removed, covered, or turned from the view of the motorists. [SS pg. 569 / 701.04]

2. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 571 / 701.13]

3. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. [SS pg. 572 / 701.13(b)]

4. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 573 / 701.14]

Standard 701406. Continued

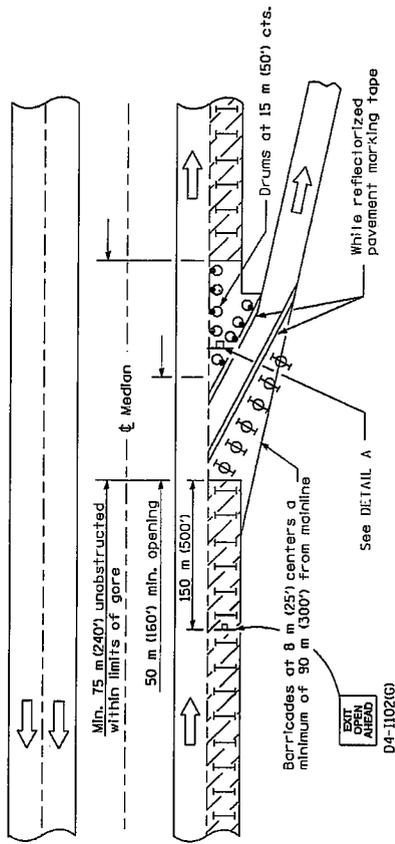
5. Work Zone Speed Limit Signs: [SS pg. 573 / 701.14(b)]

6. Where posted speeds are greater than 40 mph cones shall be a minimum of 28 in. (700 mm) in height. [MUTCD page 6F-31, Figure 6F-7]

General Information:

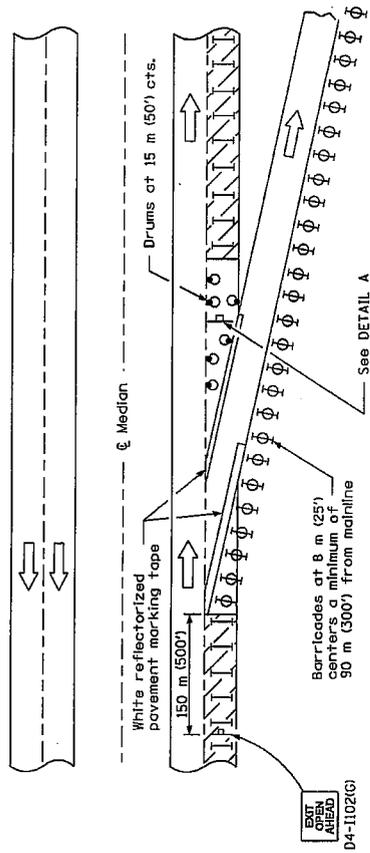
1. Equipment, materials, signs, cones, barricades, and drums are to be removed at the completion of the day's operations and the work area opened to traffic.
2. This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans will be required.

FOR INFORMATIONAL USE ONLY



APPLICATION NO. 3

Application No. 3 depicts a modified exit ramp. The channelizing devices shall provide a clearly defined path for the exiting motorists. The minimum dimensions shown shall be increased as soon as the progress of the work will permit. The open portion of the ramp may be shifted, with the approval of the Engineer, to perform work in stages on the area adjacent to the ramp exit. Application No. 4 shall be put into effect as soon as possible.



APPLICATION NO. 4

Application No. 4 depicts an extension of the normal exit ramp. This method shall be used whenever existing geometrics can be retained. Consideration should be given to the exiting motorists' line of sight through, between or over the delineation devices.

All dimensions are in millimeters (inches) unless otherwise shown.

**LANE CLOSURE, MULTILANE,
AT ENTRANCE OR EXIT RAMP,
FOR SPEEDS \geq 45 MPH**
(Sheet 2 of 2)

STANDARD 701411-03

Illinois Department of Transportation APPROVED: _____ ENGINEER OF OPERATIONS APPROVED: _____ ENGINEER OF DESIGN AND CONSTRUCTION	JANUARY 1, 2005	ISSUED 1-1-97
	_____ _____ _____	_____ _____ _____

Standard 701411.

This Standard shall supplement mainline traffic controls for lane closures.

The channelizing devices shall clearly define a path for motorists entering or exiting the highway.

ReflectORIZED temporary pavement marking tape shall be placed throughout the barricaded area of each ramp where the closure time exceeds 14 days. Raised reflectORIZED pavement markers at 25 ft (8 m) centers may be used in lieu of tape where the pavement marking is to be placed adjacent to the barricades or drums. [SS pg. 584 / 701.18(i)]

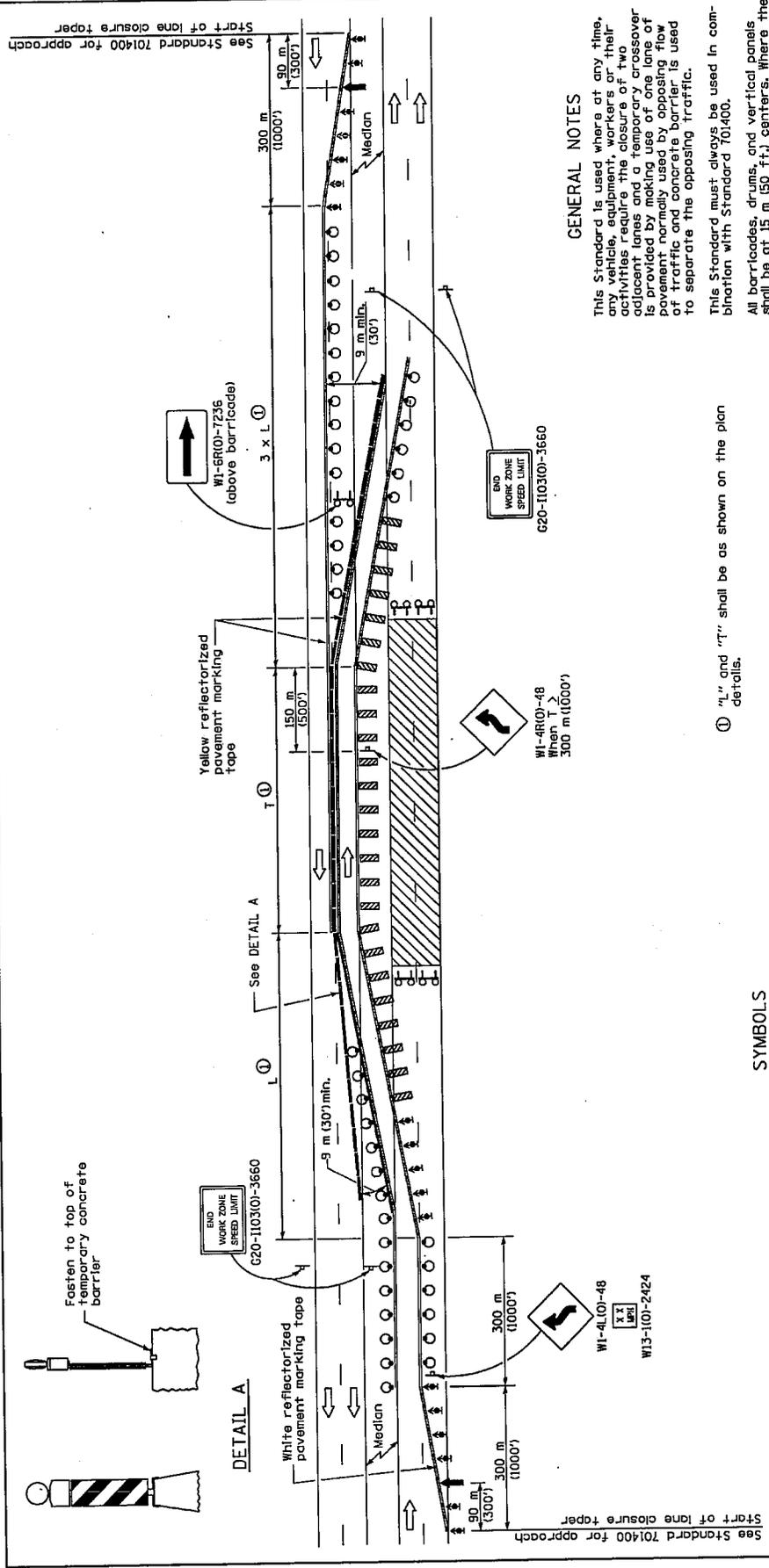
Various Specifications:

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
2. Daylight operations. Lights Required: None. [SS pg. 575 / 701.16]

General Information:

Staging should be considered that would minimize the amount of time Application No. 1 and No. 3 would be in use.

FOR INFORMATIONAL USE ONLY



See Standard 701400 for approach taper

See Standard 701400 for approach taper

GENERAL NOTES

This Standard is used where, at any time, any vehicle, equipment, workers or materials are in the closure of two adjacent lanes and a temporary crossover is provided by making use of one lane of pavement normally used by opposing flow of traffic and concrete barrier is used to separate the opposing traffic.

This Standard must always be used in combination with Standard 701400.

All barricades, drums and vertical panels shall be at 15 m (50 ft.) centers, where the tangent distance is 180 m (600 ft.) clear of the work zone. Where the tangent distance is less than 180 m (600 ft.) clear of the work zone, the centers may be substituted for the vertical panels, or spacing between vertical panels may be increased to 30 m (100 ft.) within the limits of the tangent.

All dimensions are in millimeters (inches) unless otherwise shown.

① "L" and "T" shall be as shown on the plan details.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊥ Sign
- ↑ Direction indicator barricade with steady burn monodirectional light
- Drum with steady burn monodirectional light
- ▨ Vertical Panel (back to back)
- ⊥ Type III barricade with flashing lights
- Temporary concrete barrier

21

DATE	REVISIONS
4-15-04	Revised signs.
4-1-04	Revised to provide consistency on freeway/expressway closures.

**LANE CLOSURE,
FREEWAY/EXPRESSWAY,
WITH CROSSOVER AND BARRIER**

STANDARD 701416-05

ISSUED 1-1-97
APPROVED APR 15, 2004 ENGINEER OF OPERATIONS APR 15, 2004 APPROVED Michael J. O'Neil ENGINEER OF DESIGN AND ENVIRONMENT

Issue Department of Transportation

Standard 701416.

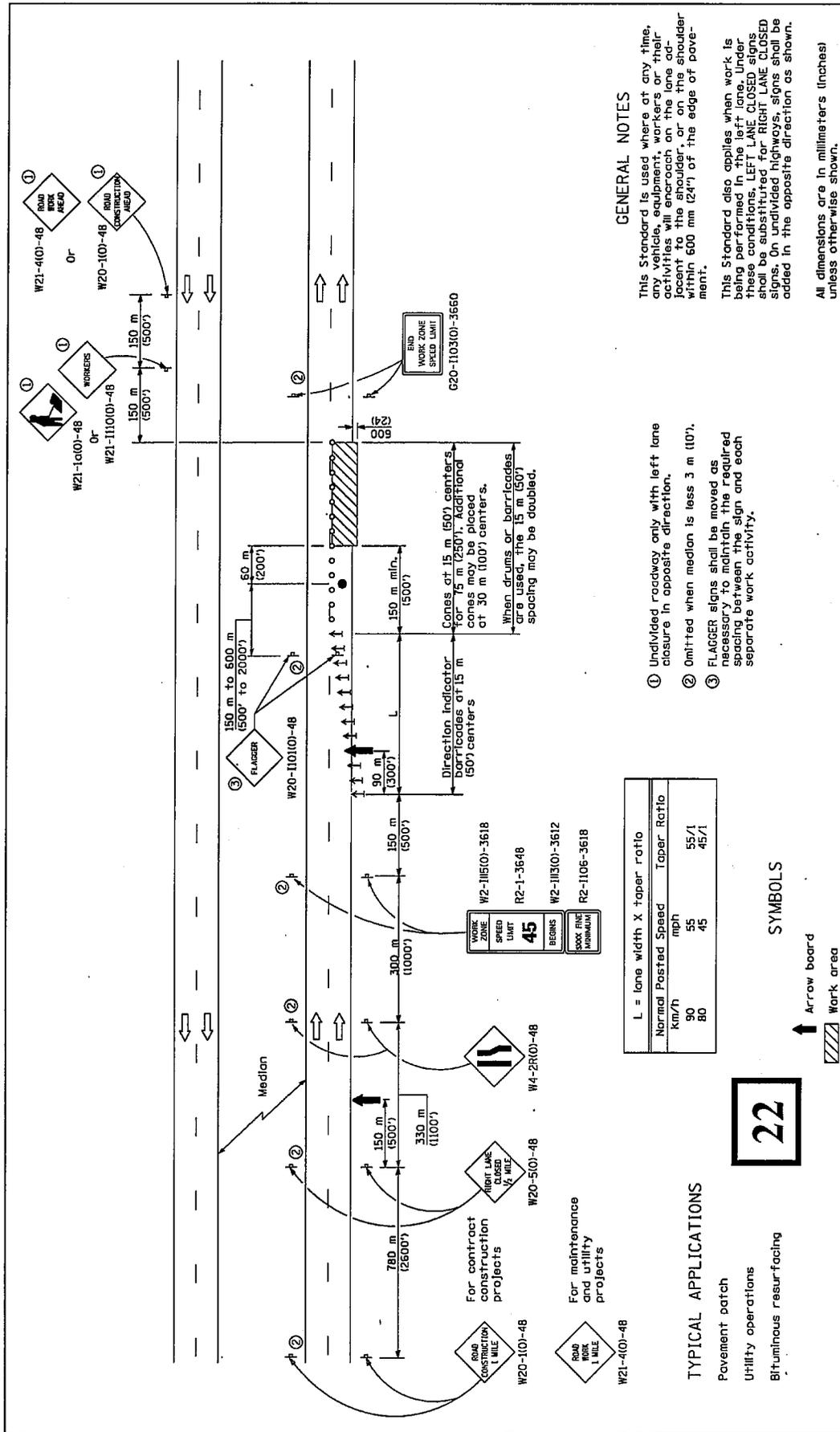
Reflective solid edge lines and double yellow centerline shall be used when the closure time exceeds four days or when the normal posted speed outside the area of operations exceeds 50 mph. Reflectorized pavement marking tape shall be used for marking the edge lines and centerline on existing pavement. Either tape or reflectorized pavement marking paint may be used for markings on the paved crossovers. Raised reflective pavement markers at 25 ft (8m) centers shall also be installed under good weather conditions for additional delineation.

Vertical panels may be attached to concrete barriers where available space prohibits the use of drums. [SS pg. 584 / 701.18(f)]

Various Specifications:

1. All existing pavement markings which conflict with the revised traffic pattern shall be removed according to Section 783. [SS pg. 569 / 701.04]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]
4. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: Steady burn mono-directional lights. [SS pg. 575 / 701.16]

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 600 mm (24") of the edge of pavement.

This Standard also applies when work is being performed in the left lane. Under these conditions, LEFT LANE CLOSED signs shall be substituted for RIGHT LANE CLOSED signs. On undivided highways, signs shall be added in the opposite direction as shown.

All dimensions are in millimeters (inches) unless otherwise shown.

- ① Undivided roadway only with left lane closure in opposite direction.
- ② Omitted when median is less 3 m (10').
- ③ FLAGGER signs shall be moved as necessary to maintain the required spacing between the sign and each separate work activity.

L = lane width X taper ratio	
Normal Posted Speed	Taper Ratio
km/h	
90	55/1
80	45/1

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊥ Sign
- ↑ Direction indicator barricade
- Cons. drum or barricade
- Flagger with traffic control sign

TYPICAL APPLICATIONS

- Pavement patch
- Utility operations
- Bituminous resurfacing

DATE	REVISIONS
4-15-04	Revised signs.
4-1-04	New Standard

Illinois Department of Transportation
 ISSUED 4-1-04
 APPROVED: [Signature] APR 15, 2004
 ENGINEER OF OPERATIONS
 APPROVED: [Signature] APR 15, 2004
 ENGINEER OF DESIGN AND ENVIRONMENT

LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ 45 MPH TO 55 MPH
STANDARD 701421-01

Standard 701421.

1. Multilane Pavement Resurfacing. For the construction of binder course, surface course and shoulder resurfacing on multilane pavements, this standard may be used at all times. [SS pg. 583 / 701.18(e)(2)]

2. Shoulder Upgrading and Replacement: The following shall apply to shoulder pipe underdrain installation and/or shoulder reconstruction on existing multilane divided highways.

The Contractor shall close the adjacent lane of pavement according to this Standard within the limits of the construction zone a) when required by the Contractor's operations and b) when no workers are present and the difference in elevation between the pavement and the shoulder and/or widening is greater than 12 in. (300 mm).

During shoulder work on ramps, a minimum of two standard advance signs, a 48 in. (1.2-m) "RAMP CONSTRUCTION AHEAD", and a 48 in. (1.2-m) "FLAGGER AHEAD" or Flagger Symbol sign, and one flagger shall be used as directed by the Engineer. The work area shall be delineated by devices at 50 ft (15 m) spacings. Shoulder drop-offs greater than 1 ½ in. (40 mm) caused by the Contractor's operations will be allowed only on one side of the ramp at a time.

Excavations greater than 3 in. (75 mm) in depth between the pavement and shoulder, including any trenches within the shoulder area, shall be restricted to one shoulder in each direction of travel. In addition, shoulder drop-offs greater than 1 ½ in. (40 mm) caused by the Contractor's operations will not be permitted over the winter shutdown.

The Contractor shall schedule the work so the lane closure at any one work area does not exceed five working days. The closure time may be exceeded for conditions beyond the Contractor's control, except if continual and persistent closures in excess of the five working days are made, the Engineer will initiate measures to delay or limit the daily production of the Contractor's operations.

All debris shall be removed from the shoulder and right-of-way prior to the removal of barricades, drums or vertical panels. [SS pg. 583 / 701.18(e)(3)]

Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 569 / 701.04]
2. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 571 / 701.13]
3. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. [SS pg. 572 / 701.13(b)]

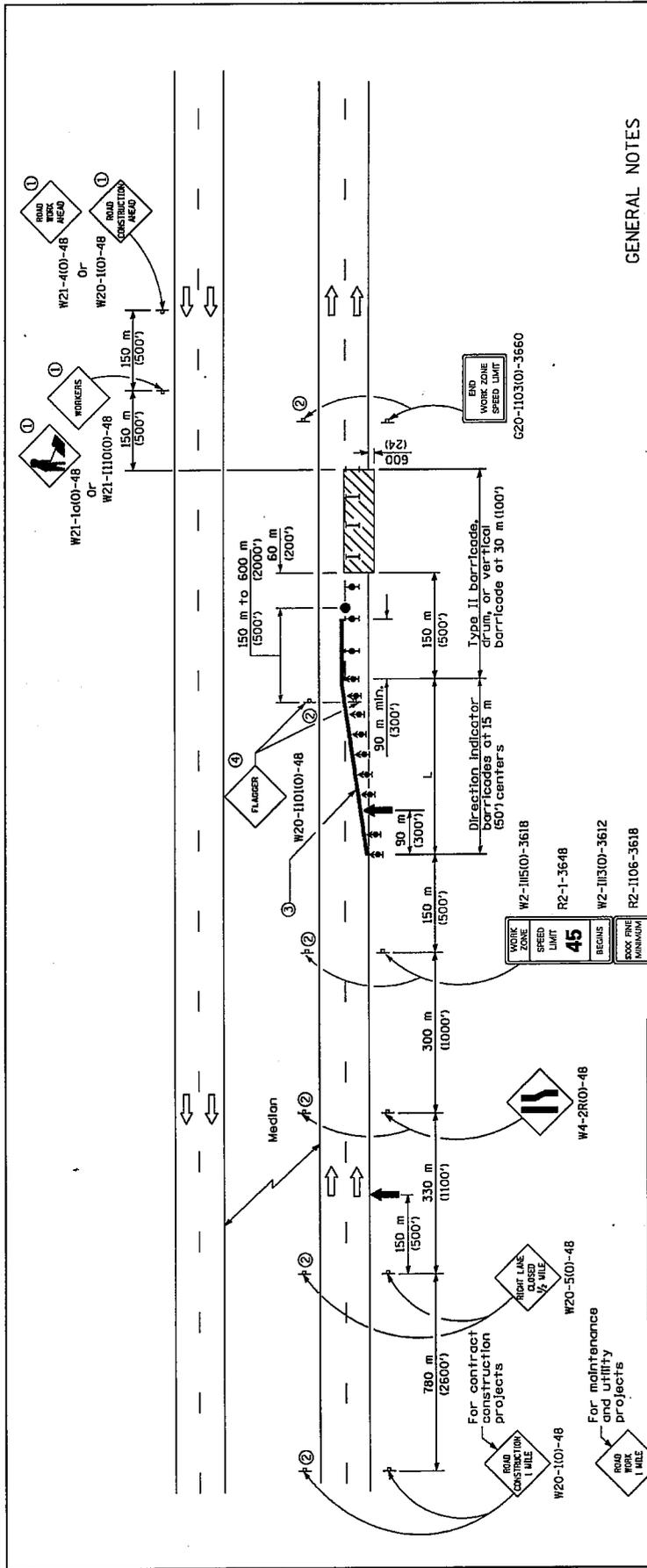
Standard 701421. Continued

4. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
5. Work Zone Speed Limit Signing [SS pg. 573 / 701.14(b)]
6. Daylight operations. Lights Required: None. [SS pg. 575 / 701.16]
7. "Rough Grooved Surface" sign. [SS pg. 576 / 701.17(c)(2)]
8. Pavement Patching: [SS pg. 578 / 701.17(e)]
9. Where posted speeds are greater than 40 mph cones shall be a minimum of 28 in. (700 mm) in height. [MUTCD page 6F-31, Figure 6F-7]

General Information:

1. This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans will be required.

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

This standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 600 mm (24") of the edge of pavement for day light operation exceeding one day.

This standard also applies when work is being performed in the lane under the control of the LEADER. Under these conditions, the LEADER lane shall be substituted for the RIGHT LANE CLOSED signs. On undivided highways, signs shall be added in the opposite direction as shown.

A check barricade shall be placed in the middle of the closed lane and at the shoulder at 300m (1000') centers.

All dimensions are in millimeters (inches) unless otherwise shown.

- ① Undivided roadway only with left lane closure in opposite direction.
- ② Omitted when median is less than 3 m (10').
- ③ Reflectorized temporary pavement marking tape shall be placed along the upper edge where the closure time is greater than fourteen days. The edge line shall be white for right lane closures and yellow for left lane closures. Raised reflectorized pavement markers at 8 m (25') centers shall be used to supplement the pavement marking tape.
- ④ FLAGGER signs shall be moved as necessary to maintain the required spacing between the sign and each separate work activity.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊥ Sign
- ⬆ Direction indicator barricade with steady burn monodirectional light
- I Type II barricade, drum, or vertical barricade
- ⊥ Type II barricade, drum, or vertical barricade with steady burn monodirectional light
- Flagger with traffic control sign

DATE	REVISIONS
4-15-04	Revised signs.
4-1-04	New Standard.

**LANE CLOSURE,
MULTILANE, FOR**

SPEEDS ≥ 45 MPH TO 55 MPH

STANDARD 701422-01



Illinois Department of Transportation
 APPROVED: [Signature] 2004
 ENGINEER OPERATIONS
 APPROVED: [Signature] 2004
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 4-1-04

Standard 701422.

1. When Standard 701422 is specified for overnight operations, cones may be substituted for barricades or drums at half the spacing during day operations. [SS pg. 582 / 701.18(e)(1)]
2. **Multilane Pavement Resurfacing.** For the construction of binder course, surface course and shoulder resurfacing on multilane pavements, Standard 701422 shall be used from the beginning of business on Monday to 4:30 p.m. on Friday. Only Standards 701406 and 701421 shall be used from 4:30 p.m. Friday to start of business on Monday. [SS pg. 583 / 701.18(e)(2)]
3. **Shoulder Upgrading and Replacement.** The following shall apply to shoulder pipe underdrain installation and/or shoulder reconstruction on existing multilane divided highways.

The Contractor shall close the adjacent lane of pavement according to the Standard within the limits of the construction zone a) when required by the Contractor's operations and b) when no workers are present and the difference in elevation between the pavement and the shoulder and/or widening is greater than 12 in. (300 mm).

During shoulder work on ramps, a minimum of two standard advance signs, a 48 in. (1.2 m) "RAMP CONSTRUCTION AHEAD", and a 48 in. (1.2 m) "FLAGGER AHEAD" or Flagger Symbol sign, and one flagger shall be used as directed by the Engineer. The work area shall be delineated by devices at 50 ft (15 m) spacings. Shoulder drop-offs greater than 1 ½ in. (40 mm) caused by the Contractor's operations will be allowed only on one side of the ramp at a time.

Standard 701422 will only be measured for payment where the average depth of shoulder reconstruction required by the plans, exclusive of any trench for pipe underdrain installation, is in excess of 3 in. (75 mm). Where such shoulder reconstruction is 3 in. (75 mm) or less, no open trench greater than 3 in. (75 mm) deep will be permitted overnight. If, because of unforeseen circumstances, an open trench greater than 3 in. (75 mm) deep should occur overnight, the Contractor shall, at no additional cost to the Department, close the adjacent traffic lane according to Standard 701422.

Excavations greater than 3 in. (75 mm) in depth between the pavement and shoulder, including any trenches within the shoulder area, shall be restricted to one shoulder in each direction of travel. In addition, shoulder drop-offs greater than 1 ½ in. (40 mm) caused by the Contractor's operations will not be permitted over the winter shutdown.

The Contractor shall schedule the work so the lane closure at any one work area does not exceed five working days. The closure time may be exceeded for conditions beyond the Contractor's control, except if continual and persistent closures in excess of the five working days are made, the Engineer will initiate measures to delay or limit the daily production of the Contractor's operations.

All debris shall be removed from the shoulder and right-of-way prior to the removal of barricades, drums or vertical panels. [SS pg. 583 / 701.18(e)(3)]

Standard 701422. Continued

Various Specifications:

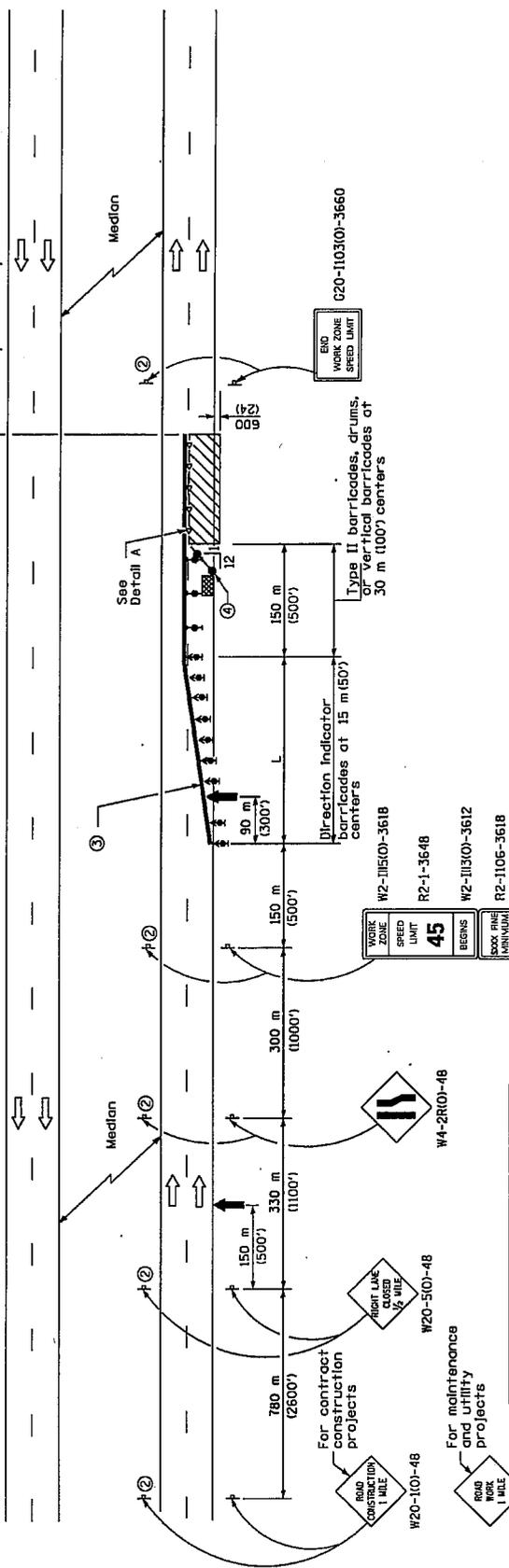
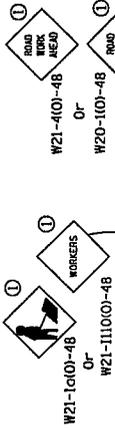
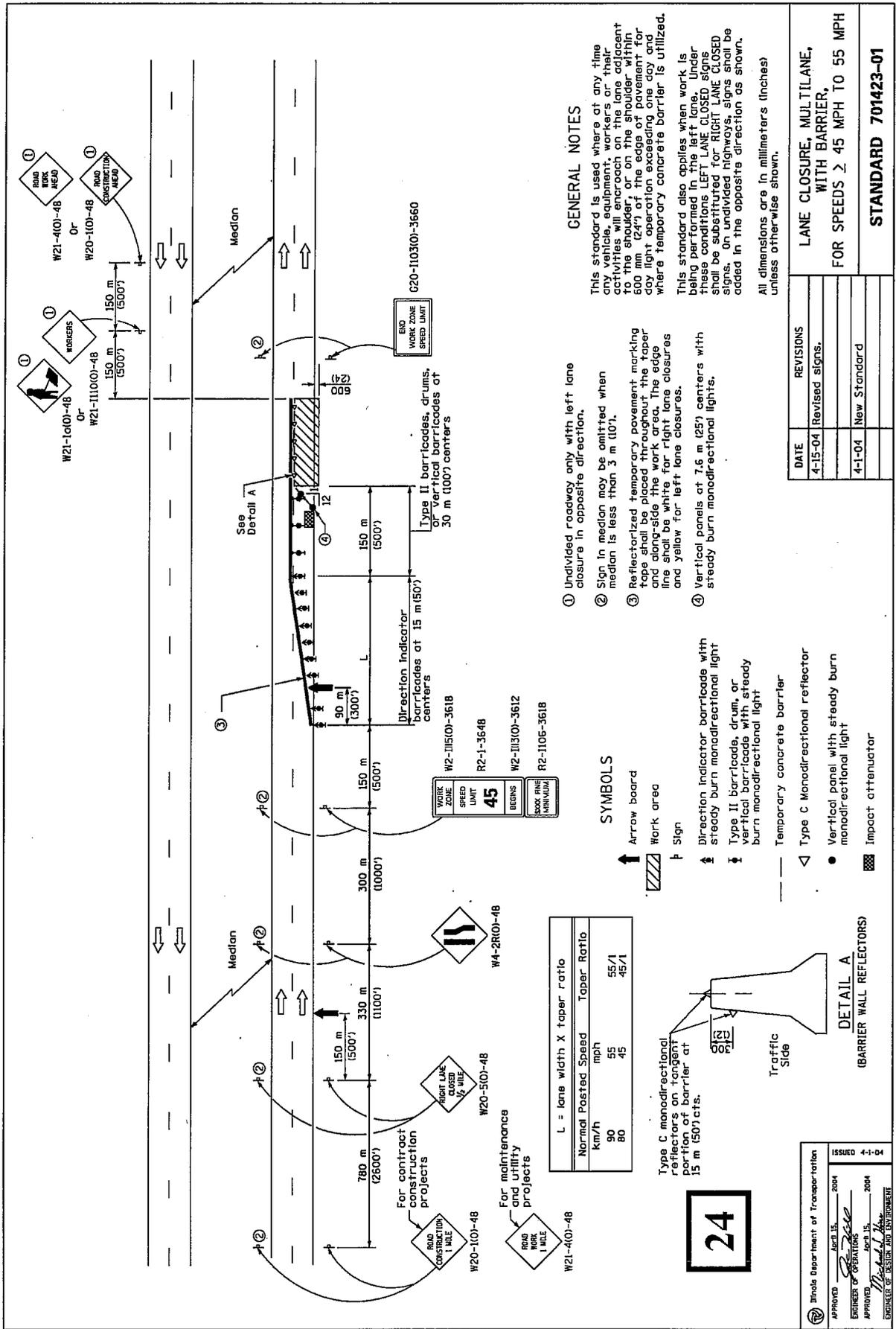
1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 569 / 701.04]
2. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 571 / 701.13]
3. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. [SS pg. 572 / 701.13(b)]
4. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 573 / 701.14]
5. Work Zone Speed Limit Signing: [SS pg. 573 / 701.14(b)]
6. Where posted speeds are greater than 40 mph cones shall be a minimum of 28 in. (700 mm) in height. [MUTCD page 6F-31, Figure 6F-7]

General Information:

1. Equipment, materials, signs, cones, barricades, and drums are to be removed at the completion of the day's operations and the work area opened to traffic.
2. This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans will be required.

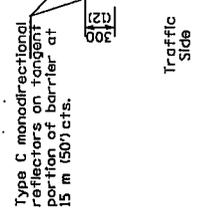
FOR INFORMATIONAL USE ONLY





L = lane width X taper ratio

Normal Posted Speed	Taper Ratio
Km/h	
90	55/1
80	45/1
Mph	
55	55/1
45	45/1



GENERAL NOTES

- ① Undivided roadway only with left lane closure in opposite direction.
 - ② Sign in median may be omitted when median is less than 3 m (10').
 - ③ ReflectORIZED temporary pavement marking tape shall be placed throughout the taper and along-side the work area. The edge line shall be white for right lane closures and yellow for left lane closures.
 - ④ Vertical panels at 7.6 m (25') centers with steady burn monodirectional lights.
- This standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 30 m (100') of the shoulder. This standard is for use on undivided roadways, except where a temporary concrete barrier is utilized.
- This standard also applies when work is being performed in the left lane. Under these conditions LEFT LANE CLOSED signs shall be substituted for RIGHT LANE CLOSED signs. On undivided roadways, signs shall be added in the opposite direction as shown.
- All dimensions are in millimeters (inches) unless otherwise shown.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊥ Sign
- ↑ Direction indicator barricade with steady burn monodirectional light
- ↓ Type II barricade, drum, or vertical barricade with steady burn monodirectional light
- Temporary concrete barrier
- ◁ Type C Monodirectional reflector
- Vertical panel with steady burn monodirectional light
- ▩ Impact attenuator

DATE	REVISIONS
4-15-04	Revised signs.
4-1-04	New Standard

LANE CLOSURE, MULTILANE, WITH BARRIER, FOR SPEEDS ≥ 45 MPH TO 55 MPH

STANDARD 701423-01

Illinois Department of Transportation
 APPROVED: [Signature] APRIL 15, 2004
 ENGINEER OF OPERATIONS
 APPROVED: [Signature] APRIL 15, 2004
 ENGINEER OF DESIGN AND ENVIRONMENT

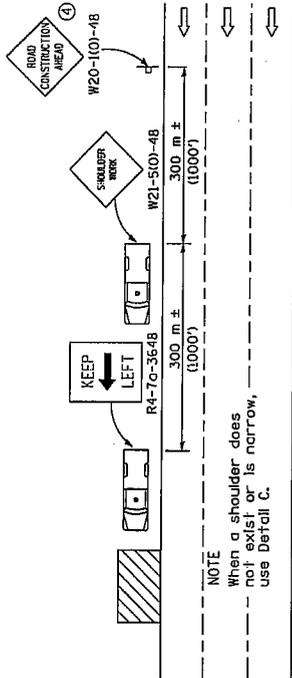


Standard 701423.

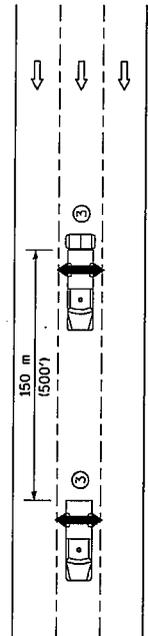
Various Specifications:

1. All existing pavement markings which conflict with the revised traffic pattern shall be removed according to Section 783. [SS pg. 569 / 701.04]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure.
Lighting Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

FOR INFORMATIONAL USE ONLY



DETAIL A

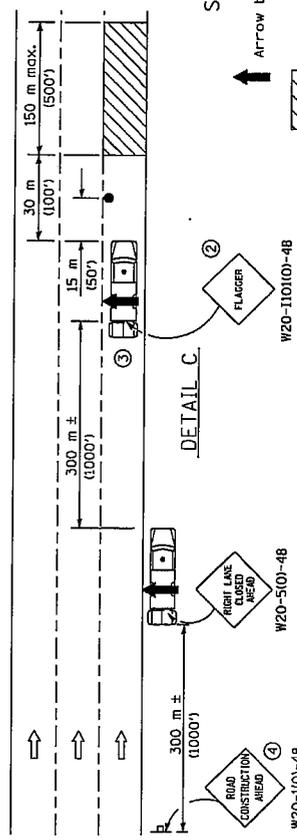


DETAIL B

(1) Pavement marking operations on an interior lane only)



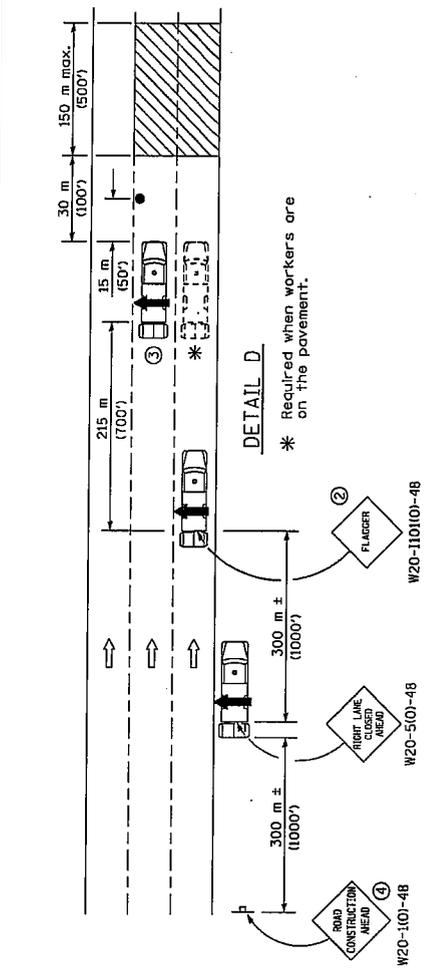
G20-1101-2430 (appropriate arrow) (3) (when striping only)



DETAIL C

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- Truck with flashing amber light
- Truck mounted attenuator
- Flagger with traffic control sign



DETAIL D

* Required when workers are on the pavement.

GENERAL NOTES

This Standard is used where any vehicle, equipment, workers or their activities will require: 1) stationary operations up to 1 hour, or 2) a continuous or intermittent moving operation where the average speed of movement is greater than 2 km/h (1 mph).

This Standard is also applicable when work is being performed in the left lane(s) or on the median shoulder. Under these conditions, KEEP RIGHT signs shall be substituted for KEEP LEFT signs and arrow board indications shall be directed to the right.

- 1) DETAIL B shall be used only for pavement marking operations where workers are not present on the pavement. For other operations involving an interior lane, use DETAIL D.
- 2) Flaggers are required when workers are on the pavement.
- 3) For striping operations only. See sign arrow detail on this standard.
- 4) For operations which are on the roadway or shoulder, greater than 15 minutes and up to 1 hour.

All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Pavement marking
- Weed spraying
- Roadometer measurements
- Debris cleanup
- Crack pouring

DATE	REVISIONS
1-1-05	Revised Detail A and deleted FLAGGER SYMBOL sign.
1-1-00	Rev. SHOULDER WORK AHEAD sign. Added prov. for temp. stationary oper.

LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≥ 45 MPH

STANDARD 701426-02

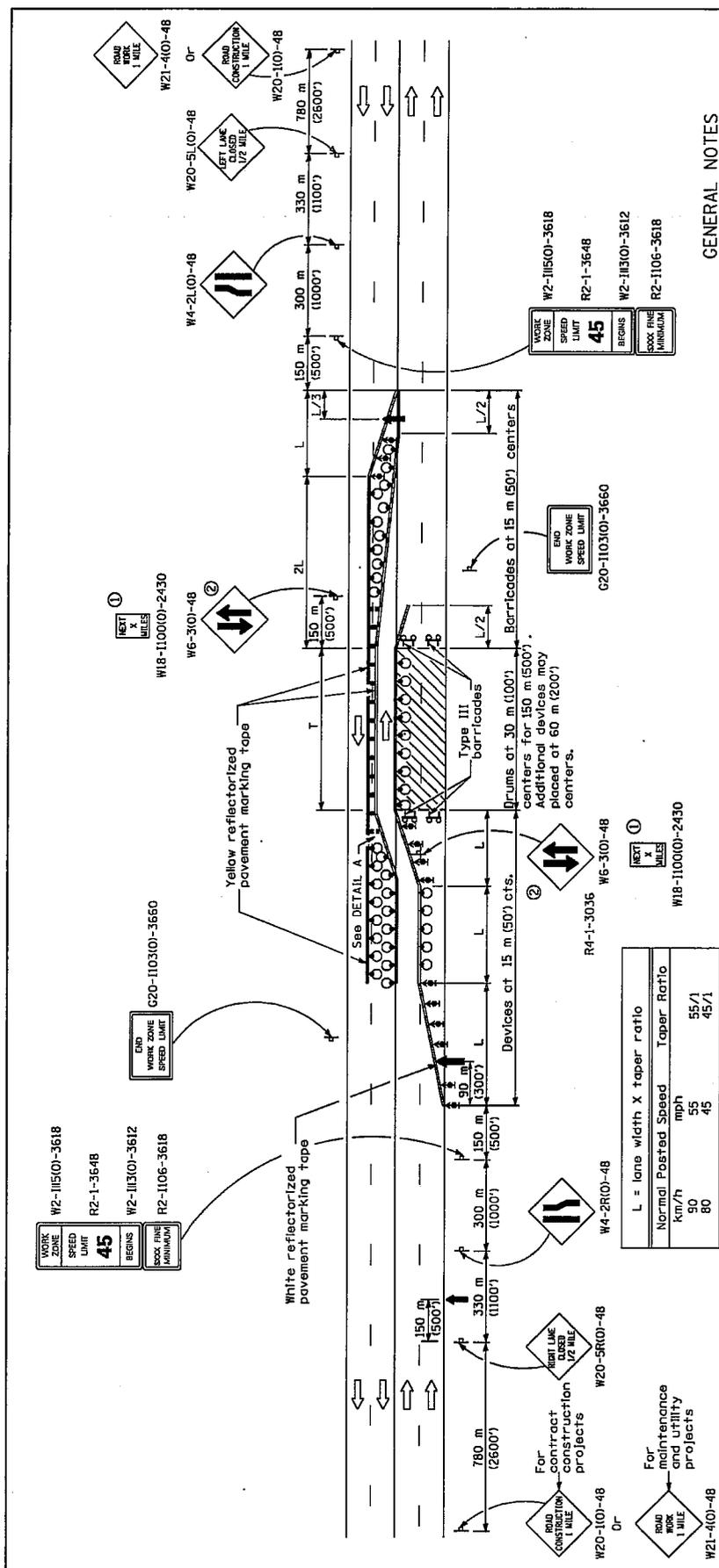
Standard 701426.

Truck mounted attenuators will not be required for any vehicle traveling entirely on a completed shoulder. [SS pg. 584 / 701.18(h)]

Various Specifications:

Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 573 / 701.14]

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

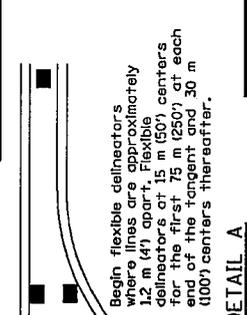
This Standard is used where at any time, any vehicle, equipment, workers or their activities require the closure of two lanes on a temporary crossover. This Standard is provided for use on a temporary crossover pavement normally used by opposing flow of traffic and flexible delineators are used to separate the opposing traffic. Cones may be substituted for flexible delineators during daytime operations at half the spacing.

All dimensions are in millimeters (inches) unless otherwise shown.

- ① Shall be repeated every 1.5 km (1 mile).
 ② Shall be repeated every 400 m (1/4 mile) in each direction in the tangent section unless concrete barrier is used.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊥ Sign
- Drum with steady burn monodirectional light
- ⬆ Direction indicator barricade with steady burn monodirectional light
- ▬ Flexible delineator
- ⊕ Type III barricade with flashing monodirectional lights



DETAIL A

Begin flexible delineators where lines are approximately 1.2 m (4') apart. Flexible delineators at 15 m (50') centers for the first 75 m (250') at each end of the tangent and 30 m (100') centers thereafter.

Normal Posted Speed	Taper Ratio
km/h	
50	55/1
80	45/1

L = lane width X taper ratio

DATE	REVISIONS
4-15-04	Revised signs.
4-1-04	Revised Workzone speed limit signs and lane tapers.

LANE CLOSURE, MULTILANE, UNDIV. WITH CROSSOVER, FOR SPEEDS ≥ 45 MPH TO 55 MPH

STANDARD 701431-03

26

Illinois Department of Transportation
 APPROVED: [Signature] DATE: 11/15/04
 ENGINEER OF OPERATIONS
 APPROVED: [Signature] DATE: 11/15/04
 ENGINEER OF DESIGN AND MANAGEMENT

ISSUED 1-1-97

Standard 701431.

Reflective solid edge lines and a double yellow centerline shall be used when the closure time exceeds four days or when the normal posted speed outside the area of operations exceeds 50 mph. Reflectorized pavement marking tape shall be used for marking the centerline and edge lines on the existing pavement. Raised reflective pavement markers at 25 ft (8 m) centers shall be installed under good weather conditions to supplement the pavement marking tape. All existing pavement markings which conflict with the revised traffic pattern shall be removed.

Devices no greater than 24 in. (600 mm) wide, maybe used in place of flexible delineators when the two-way operation is to be in place four days or less. [SS pg. 584 / 701.18(g)]

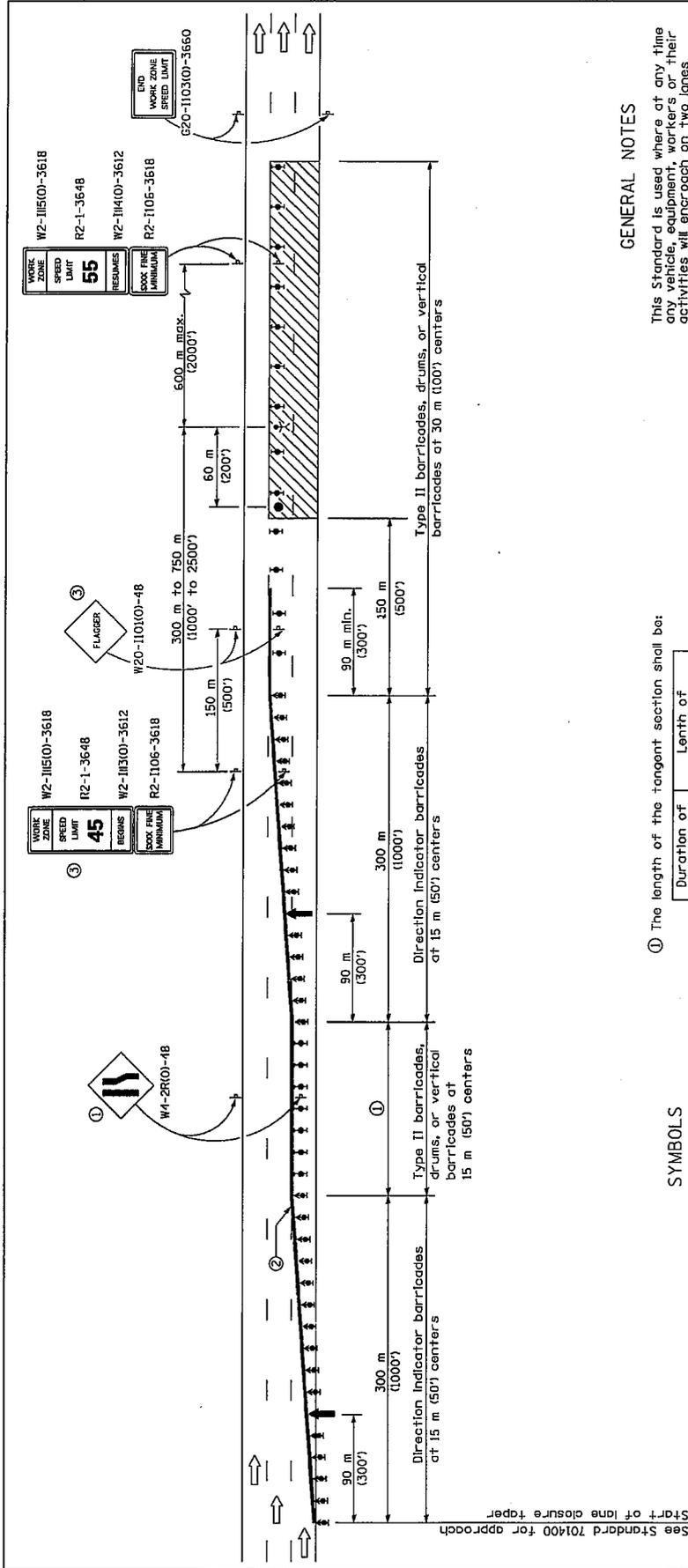
Various Specifications:

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
2. Work Zone Speed Limit Signing: [SS pg. 573 / 701.14(b)]
3. Daylight operations. Lights Required: None. [SS pg. 575 / 701.16]
4. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]
5. Where posted speeds are greater than 40 mph cones shall be a minimum of 28 in. (700 mm) in height. [MUTCD page 6F-31, Figure 6F-7]

General Information:

1. This case does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans will be required.
2. On long term projects, wing barricades should be considered for the mounting of the first 3 sets of advance warning signs approaching the lane closure.

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

This Standard is used where, at any time any vehicle, equipment, or workers or their activities will encroach on two lanes of a freeway/expressway.

This Standard must always be used in combination with Standard 701400.

This Standard also applies when work is being performed in the left lanes. Under these conditions, the set up would be a mirror image to what is shown.

Check barricades shall be placed in the closed lanes at 300 m (1000') centers.

All dimensions are in millimeters (inches) unless otherwise shown.

① The length of the tangent section shall be:

Duration of Closure	Length of Tangent Section
< 14 Days	300 m (1000')
≥ 14 Days	600 m (2000')

For off peak closures less than 24 hours, the tangent section and the lane reduction sign may be omitted if approved by the Engineer.

② ReflectORIZED temporary pavement marking shall be used to guide the workers for 90 m (300') along the taper when the closure time is greater than fourteen days. The edge line shall be white for right lane closures and yellow for left lane closures. Temporary raised reflective pavement markers at 8 m (25') shall be used to supplement the pavement marking tape.

③ Work zone speed limit signs and FLACCR signs shall be moved as necessary to maintain the required spacing between the signs and the workers in each separate work activity.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⋈ Worker
- ⊥ Sign
- ⚡ Direction indicator barricade with steady burn monodirectional light
- ⚡ Type II barricade, drum, or vertical barricade with steady burn monodirectional light
- Flagger with traffic control sign

27

Illinois Department of Transportation APPROVED: <i>[Signature]</i> January 1, 2005 ENGINEER OF OPERATIONS APPROVED: <i>[Signature]</i> January 1, 2005 ENGINEER OF DESIGN AND ENVIRONMENT	ISSUED 1-1-05
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DATE	REVISIONS
1-1-05	New Standard.

**TWO LANE CLOSURE
FREEWAY/EXPRESSWAY**

STANDARD 701446

Standard 701446.

Various Specifications:

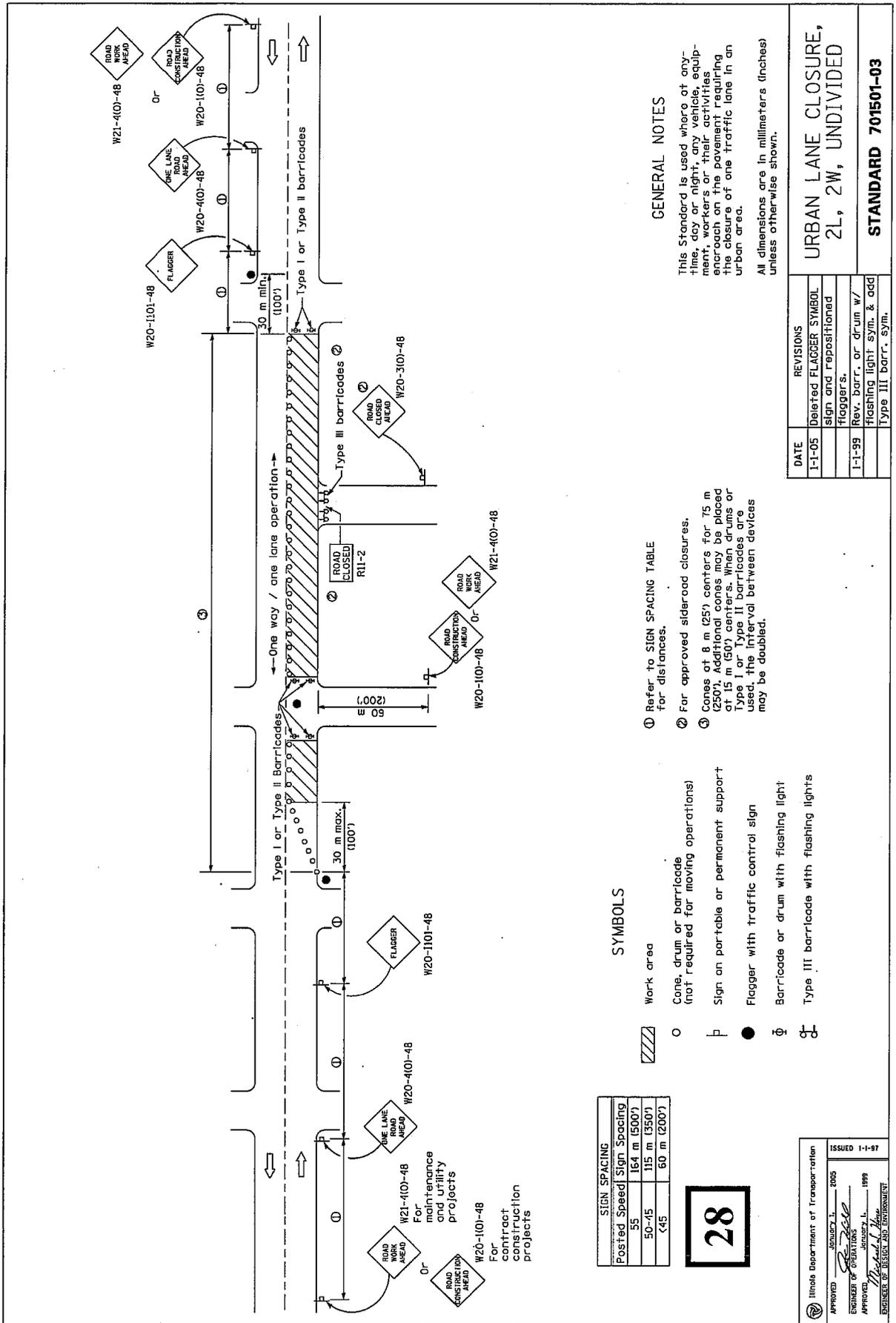
1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]

2. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

General Information:

This Standard is to be used when two lanes are to be closed on a freeway / expressway. Specifications applicable to Standards 701401 shall be applicable to this Standard.

FOR INFORMATIONAL USE ONLY



SIGN SPACING	
Posted Speed	Sign Spacing
55	164 m (500')
50-45	115 m (350')
45	60 m (200')

28

GENERAL NOTES

This Standard is used where, at any time, day or night, any vehicle, equipment, or material is being placed or encroachment on the pavement resulting in the closure of one traffic lane in an urban area.

All dimensions are in millimeters (inches) unless otherwise shown.

① Refer to SIGN SPACING TABLE for distances.

② For approved sideroad closures.

③ Cones at 8 m (25') centers for 75 m (250') additional cones to be placed at 15 m (50') centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.

SYMBOLS

- ▨ Work area
- Cone, drum or barricade (not required for moving operations)
- ⊥ Sign on portable or permanent support
- Flagger with traffic control sign
- ⊕ Barricade or drum with flashing light
- ⊕ Type III barricade with flashing lights

DATE	REVISIONS
1-1-05	Deleted FLAGGER SYMBOL sign and repositioned flaggers.
1-1-99	Rev. barr. or drum w/ flashing light sym. & add Type III barr. sym.

Illinois Department of Transportation

APPROVED: *[Signature]* January 1, 2005

ENGINEER OF OPERATIONS: *[Signature]* January 1, 1999

APPROVED: *[Signature]* January 1, 1999

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

**URBAN LANE CLOSURE,
2L, 2W, UNDIVIDED**

STANDARD 701501-03

Standard 701501.

1. On two-lane/two-way roadways, construction operations shall be confined to one traffic lane leaving the opposite lane open to traffic. [SS pg. 585 / 701.18(j)(2)]

2. "NO PARKING" signs shall be installed throughout the work area.

When the work area is in the parking lane and parking exists during work hours, "ROAD CONSTRUCTION AHEAD" or "ROAD WORK AHEAD" signs shall be installed 200 ft (60 m) in advance of the work area and the area shall be delineated with cones and barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and along side the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 584/ 701.18(j)(1)]

Various Specifications:

1. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 572 / 701.13(a)]

2. Flaggers will not be required when no work is being performed, unless there is a lane closure on a two-lane, two-way pavement. [SS pg. 572 / 701.13]

3. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]

4. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]

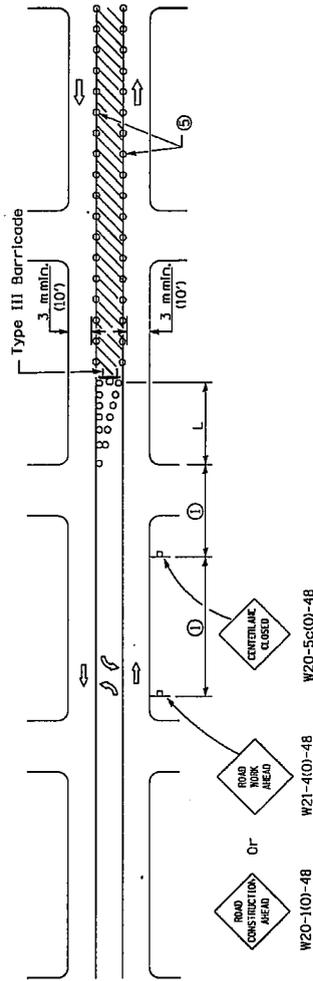
5. Channelizing devices for nighttime lane closures on two-lane roads. Lights Required: Steady burn bi-directional lights. [SS pg. 575 / 701.16]

General Information:

1. In lieu of utilizing flaggers during nonworking hours with one lane closed, one direction of traffic may be detoured over an approved route.

2. When necessary, additional flaggers should be positioned so as to regulate side street traffic.

FOR INFORMATIONAL USE ONLY



CASE I
(Signs required for both directions)

SIGN SPACING	
Posted Speed Sign Spacing	
55 (9)	150 m (500')
50-65 (8)	115 m (380')
45	60 m (200')

29

GENERAL NOTES

This Standard is used to close one lane of an urban, two lane, two way roadway with a bidirectional turn lane.

Case I applies when no workers are present. When workers are present, two lanes shall be closed and traffic control shall be according to Standard 701501.

Calculate L as follows:

SPEED LIMIT	FORMULAS
70 km/h (40 mph) or less:	Metric (English) $L = WS^2$ $L = \frac{WS^2}{60}$
80 km/h (45 mph) or greater:	$L = 0.65(W/S)$ $L = (W/S)$

W = Width of offset in meters (feet).
S = Normal posted speed km/h (mph).

All dimensions are in millimeters (inches) unless otherwise shown.

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 70 km/h (40 mph).
- ③ Required if work exceeds 164 m (500') or 1 block.
- ④ For speeds exceeding 80 km/h (45 mph) contact the District Operations Office for approval of sign spacing.
- ⑤ Cones at 8 m (25') centers for 75 m (250'). Additional cones may be placed at 15 m (50') centers. When drums or type I or II barricades are used, the interval between devices may be doubled.
- ⑥ For approved sideroad closures.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊕ Barricade or drum with steady burning monidirectional light
- I Barricade or drum without flashing light
- Flagger with traffic control sign
- Cone, drum or barricade (cones for daytime use only)
- ⊥ Sign on portable or permanent support

Illinois Department of Transportation	ISSUED 1-1-01
	APPROVED January 1, 2005
ENGINEER OF OPERATIONS	APPROVED January 1, 2005
 Michael J. Hines ENGINEER OF DESIGN AND ENVIRONMENT	

DATE	REVISIONS
1-1-05	Revised notes and deleted FLAGGER SYMBOL sign.
1-1-01	New Standard

**URBAN LANE CLOSURE,
2L, 2W, WITH BIDIRECTIONAL
LEFT TURN LANE**
(Sheet 1 of 2)

STANDARD 701502-01

Standard 701502.

"NO PARKING" signs shall be installed throughout the work area.

When the work area is in the parking lane and parking exists during work hours, "ROAD CONSTRUCTION AHEAD" or "ROAD WORK AHEAD" signs shall be installed 200 ft (60 m) in advance of the work area and the area shall be delineated with cones or barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and along side the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 584 / 701.18(j)(1)]

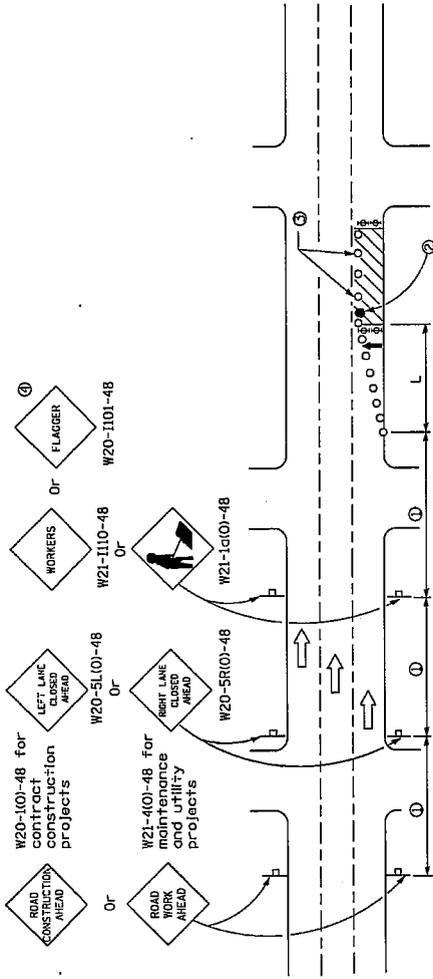
Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 569 / 701.04]
2. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 572 / 701.13(a)]
3. Flaggers will not be required when no work is being performed, unless there is a lane closure on two-lane, two-way pavement. [SS pg. 572 / 701.13]
4. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
5. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]
6. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: Steady burn mono-directional lights. [SS pg. 575 / 701.16]

General Information:

When necessary, additional flaggers should be positioned so as to regulate side street traffic.

FOR INFORMATIONAL USE ONLY



SIGN SPACING	
Posted Speed	Sign Spacing
55	164 m (500')
50-45	115 m (350')
<45	60 m (200')

30

SYMBOLS

- ↑ Arrow board
- Cone, drum or barricade
- ▬ Sign on portable or permanent support
- ▨ Work area
- ⊕ Barricade or drum with flashing light
- ⊕ Type III barricade with flashing lights
- Flagger with traffic control sign.

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 MPH
- ③ Cones at 8 m (25') centers for 75 m (250'). Additional cones may be placed at 15 m (50') centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Use flagger sign only when flagger is present.
- ⑤ For approved sideroad closures.

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in urban areas.

Calculate L as follows:

SPEED LIMIT	FORMULAS
70 km/h (40 mph) or less:	Metric (English) L = WS ² / 150 L = WS ² / 60
80 km/h (45 mph) or greater:	L = 0.65(W)(S) L = (W)(S)

W = width of offset in meters (feet).
S = Normal posted speed km/h (mph).

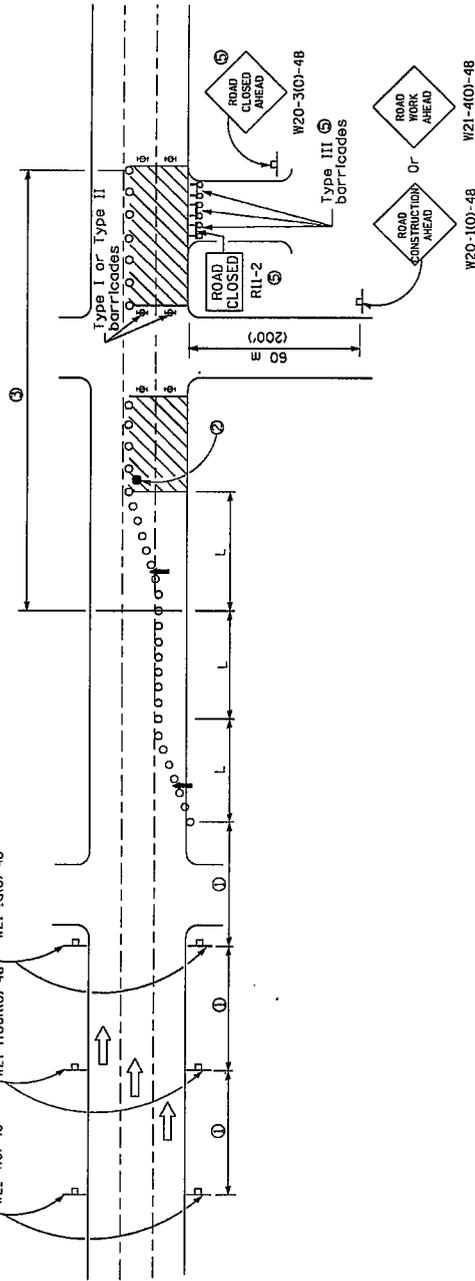
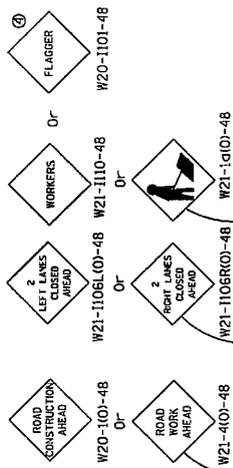
All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS
1-1-05	Added tangent distance to 2 lane closure taper.
1-1-00	Rev. arrow board for single lane work.

**URBAN LANE CLOSURE,
MULTILANE, 1W OR 2W WITH
NONTRAVERSABLE MEDIUM**
(Sheet 1 of 2)

STANDARD 701601-04

Illinois Department of Transportation APPROVED: <i>[Signature]</i> ENGINEER OF PUBLIC WORKS APPROVED: <i>[Signature]</i> ENGINEER OF TRAFFIC AND ENVIRONMENT	ISSUED 1-1-97 JANUARY 1, 2005
	APPROVED: <i>[Signature]</i> ENGINEER OF PUBLIC WORKS APPROVED: <i>[Signature]</i> ENGINEER OF TRAFFIC AND ENVIRONMENT



All dimensions are in millimeters (inches) unless otherwise shown.

URBAN LANE CLOSURE,
MULTILANE, 1W OR 2W WITH
NONTRAVERSABLE MEDIAN
(Sheet 2 of 2)

STANDARD 701601-04

Illinois Department of Transportation APPROVED: <i>[Signature]</i> ENGINEER OF PUBLIC WORKS APPROVED: <i>[Signature]</i> ENGINEER OF DESIGN AND ENVIRONMENT	JANUARY 1, 2005 ISSUED 1-1-97
	JANUARY 1, 2005 ISSUED 1-1-97

Standard 701601.

"NO PARKING" signs shall be installed throughout the work area.

When the work area is in the parking lane and parking exists during work hours, "ROAD CONSTRUCTION AHEAD" or "ROAD WORK AHEAD" signs shall be installed 200 ft (60 m) in advance of the work area and the area shall be delineated with cones or barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and along side the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 584 / 701.18(j)(1)]

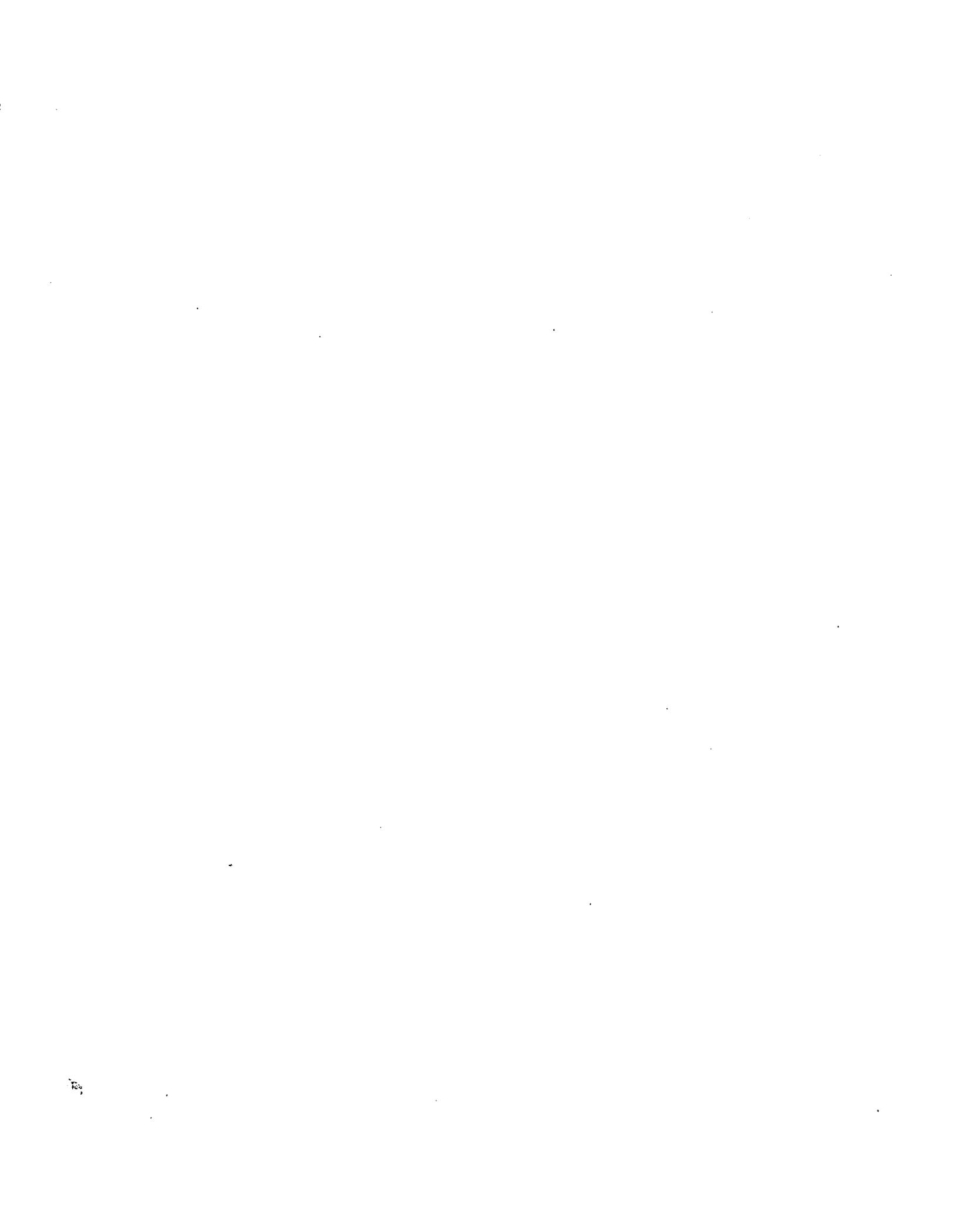
Various Specifications:

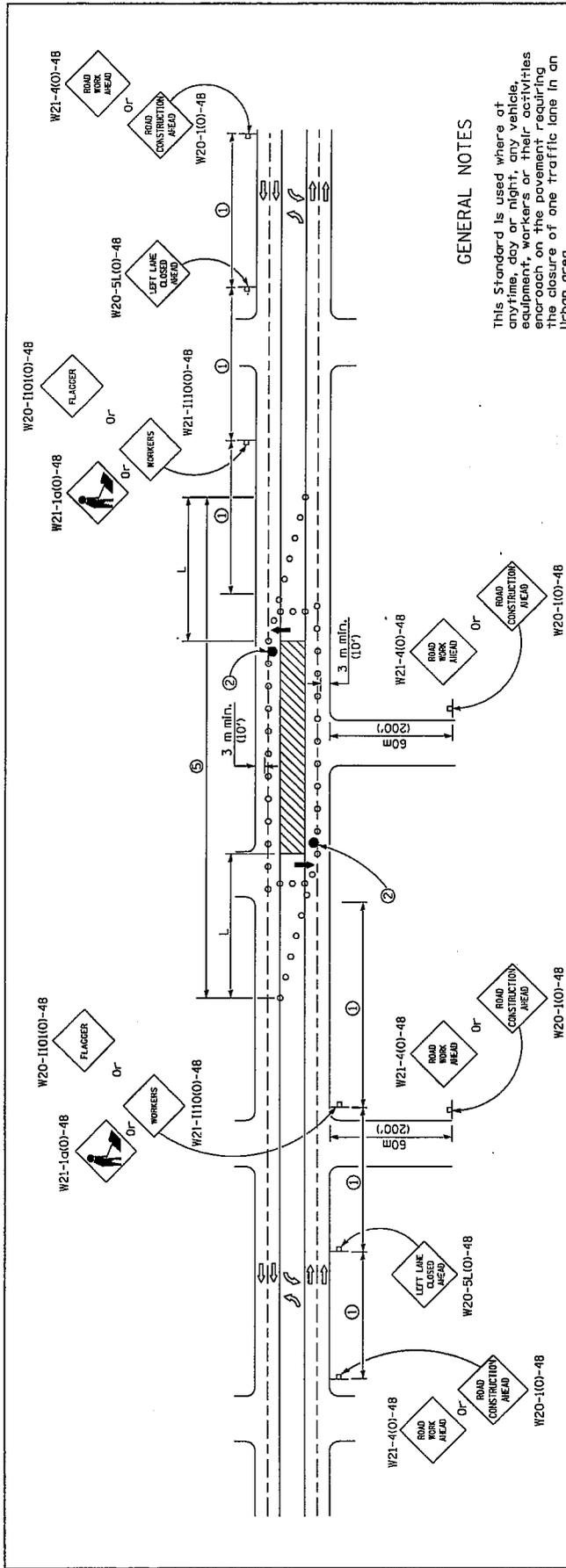
1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
2. First two warning signs on each approach to the work involving a nighttime lane closure:
Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]
3. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required:
Steady burn mono-directional lights. [SS pg. 575 / 701.16]

General Information:

This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans approved by the Engineer will be required.

FOR INFORMATIONAL USE ONLY





GENERAL NOTES

This Standard is used where at any time day or night any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an Urban area.

If the work operation is performed between 9:00 a.m. and 3:00 p.m. and does not exceed 15 min. Traffic protection shall be as shown for Standard 701426.

Calculate L as follows:

SPEED LIMIT FORMULAS

70 km/h (40 mph) or less: $L = \frac{WS}{150}$ (English) $L = 60$

80 km/h (45 mph) or greater: $L = 0.65(W/S)$ $L = (W/S)$

W = Width of offset in meters (feet).
S = Normal posted speed km/h (mph).

All dimensions are in millimeters (inches) unless otherwise shown.

CASE I

REFER TO SIGN SPACING TABLE

- 1 Refer to distances, for distances, > 70 km/h (40 mph).
- 2 Required for speeds > 70 km/h (40 mph).
- 3 Required if work exceeds 164 m (500') or 1 block.
- 4 For speeds exceeding 80 km/h (45 mph) contact the District Operations Office for approval of sign spacing.
- 5 Cones at 8 m (25') centers for 75 m (250'). Additional cones may be placed at 15 m (50') centers. When drums or Type I or II barricades are used, the interval between devices may be doubled.
- 6 For approved sideroad closures.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊕ Barricade or drum with steady burning mondirectional light
- I Barricade or drum without flashing light
- Flagger with traffic control sign
- Cone, drum or barricade (Cones for daytime use only)
- ⊥ Sign on portable or permanent support
- F Type III Barricade

Posted Speed	Sign Spacing
55 (4)	150 m (500')
50-45 (4)	115 m (350')
45	60 m (200')

31

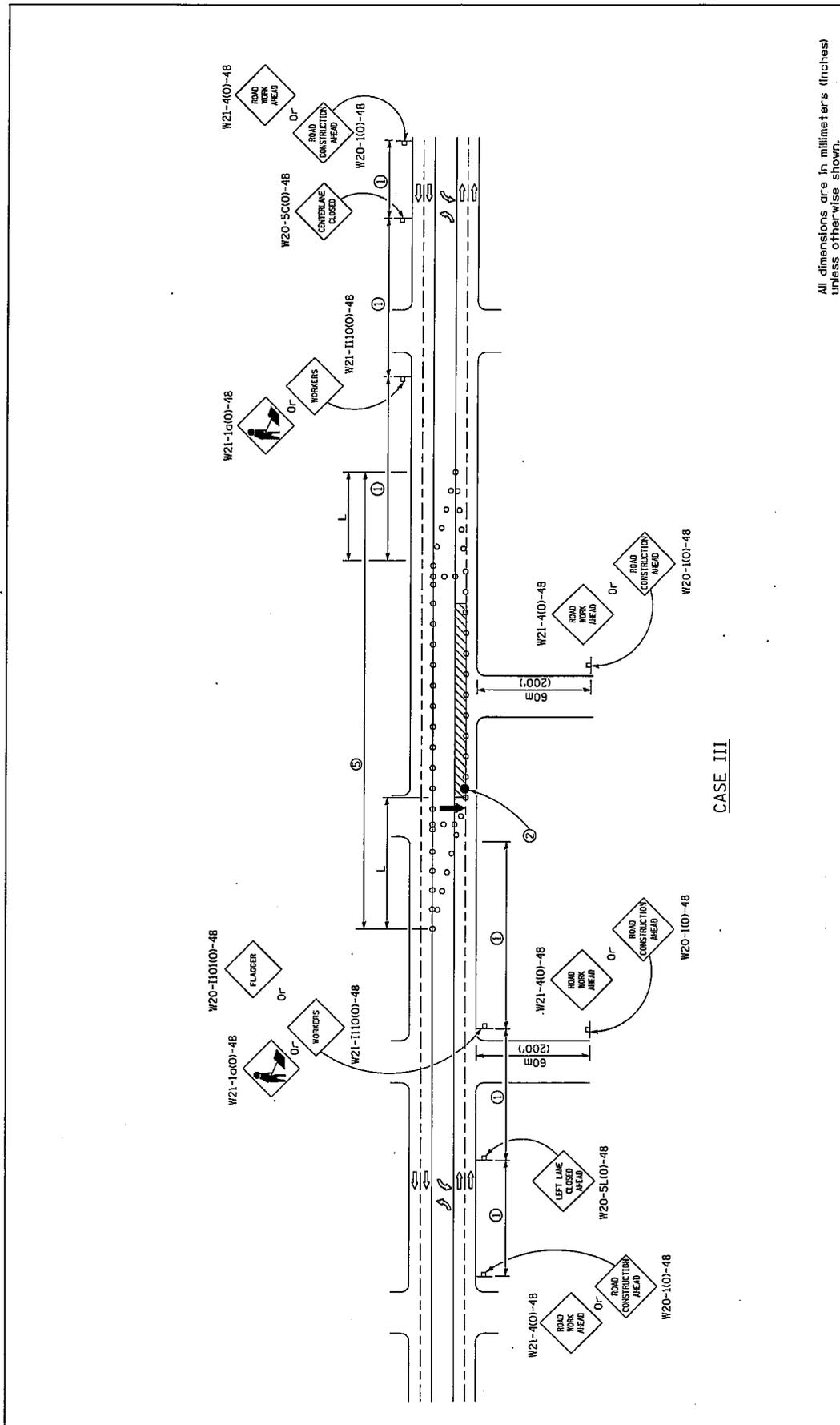
DATE	REVISIONS
1-1-05	Revised notes and deleted FLAGGER SYMBOL sign.
1-1-02	Add Ty III barr. to symbols, rem "Road Closed", change Paper, add signs sht 2.

URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
(Sheet 1 of 4)

STANDARD 701602-02

Illinois Department of Transportation
 APPROVED January 1, 2005
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2005
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-01



All dimensions are in millimeters (inches) unless otherwise shown.

URBAN LANE CLOSURE, MULTILANE,
2W WITH BIDIRECTIONAL
LEFT TURN LANE
(Sheet 3 of 4)

STANDARD 701602-02

CASE III

Illinois Department of Transportation <small>SENATOR J. J. ... 2005</small> ENGINEER OF OPERATIONS <small>APPROVED: [Signature] 2005</small> ENGINEER OF DESIGN AND CONSTRUCTION	ISSUED 1-1-01
	<small>APPROVED: [Signature] 2005</small> ENGINEER OF OPERATIONS

Standard 701602.

"NO PARKING" signs shall be installed throughout the work area.

When the work area is in the parking lane and parking exists during work hours, "ROAD CONSTRUCTION AHEAD" or "ROAD WORK AHEAD" signs shall be installed 200 ft (60 m) in advance of the work area and the area shall be delineated with cones or barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and along side the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 585 / 701.18(j)(1)]

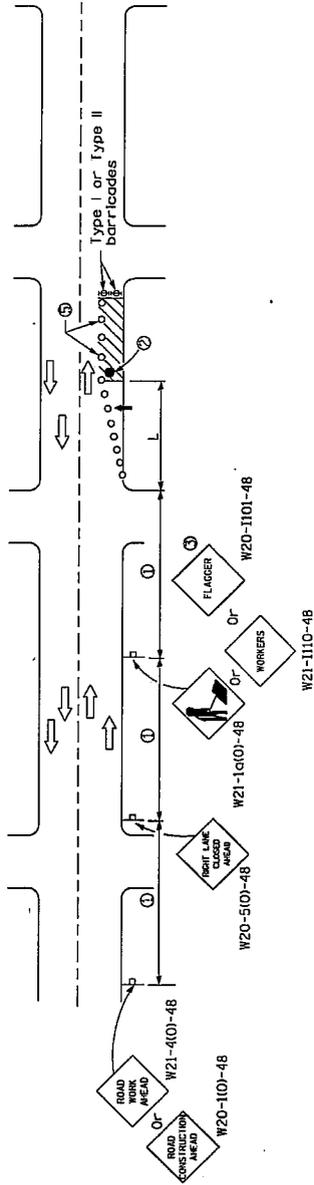
Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 569 / 701.04]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]
4. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: Steady burn mono-directional lights. [SS pg. 575 / 701.16]

General Information:

When necessary, additional flaggers should be positioned so as to regulate side street traffic.

FOR INFORMATIONAL USE ONLY



SIGN SPACING	
Posted Speed	Sign Spacing
55	164 m (500')
50-45	115 m (350')
<45	60 m (200')

32

SYMBOLS

- ↑ Arrow board
- Cone, drum or barricade
- ▬ Sign on portable or permanent support
- ▨ Work area
- ⊕ Barricade or drum with flashing light
- ⊕ Type III barricade with flashing lights
- Flagger with traffic control sign.

① Refer to SIGN SPACING TABLE for distances.

② Required for speeds > 40 MPH

③ Use flagger sign only when flagger is present.

④ For approved sideroad closures.

⑤ Cones at 8 m (25') centers for 75 m (250'). Additional cones may be placed at 15 m (50') centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.

GENERAL NOTES

This Standard is used where at anytime, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one or more traffic lanes in an urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS
70 km/h (40 mph) or less	Metric $L = WS^2$ L = 150
80 km/h (45 mph) or greater	$L = 0.65(W)(S)$ L = (W)(S)

W = Width of offset in meters (feet).
S = Normal posted speed km/h (mph).

All dimensions are in millimeters (inches) unless otherwise shown.

Illinois Department of Transportation
 APPROVED: [Signature] JANUARY 1, 2005
 ENGINEER OF OPERATIONS
 APPROVED: [Signature] JANUARY 1, 2005
 ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-05	Added tangent distance to 2 lane closure taper.
1-1-00	Rev. GENERAL NOTES and 2 RT. LANES CLOSED AHEAD sign number.

URBAN LANE CLOSURE,
MULTILANE, 2W WITH
MOUNTABLE MEDIAN

STANDARD 701606-04
(Sheet 1 of 2)

Standard 701606.

1. Reflective pavement markings shall be used when the closure time exceeds four days. The double yellow centerline shall be used in the two-way traffic area in addition to the barricades or drums. Single yellow left edge line shall be used to outline the barricade island. White right edge line shall be used along the barricades delineating the work area. [SS pg. 585 / 701.18(j)(3)]

2. "NO PARKING" signs shall be installed throughout the work area.

When the work area is in the parking lane and parking exists during work hours, "ROAD CONSTRUCTION AHEAD" or "ROAD WORK AHEAD" signs shall be installed 200 ft (60 m) in advance of the work area and the area shall be delineated with cones or barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and along side the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 584 / 701.18(j)(1)]

Various Specifications:

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of the motorists. [SS pg. 569 / 701.04]

2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]

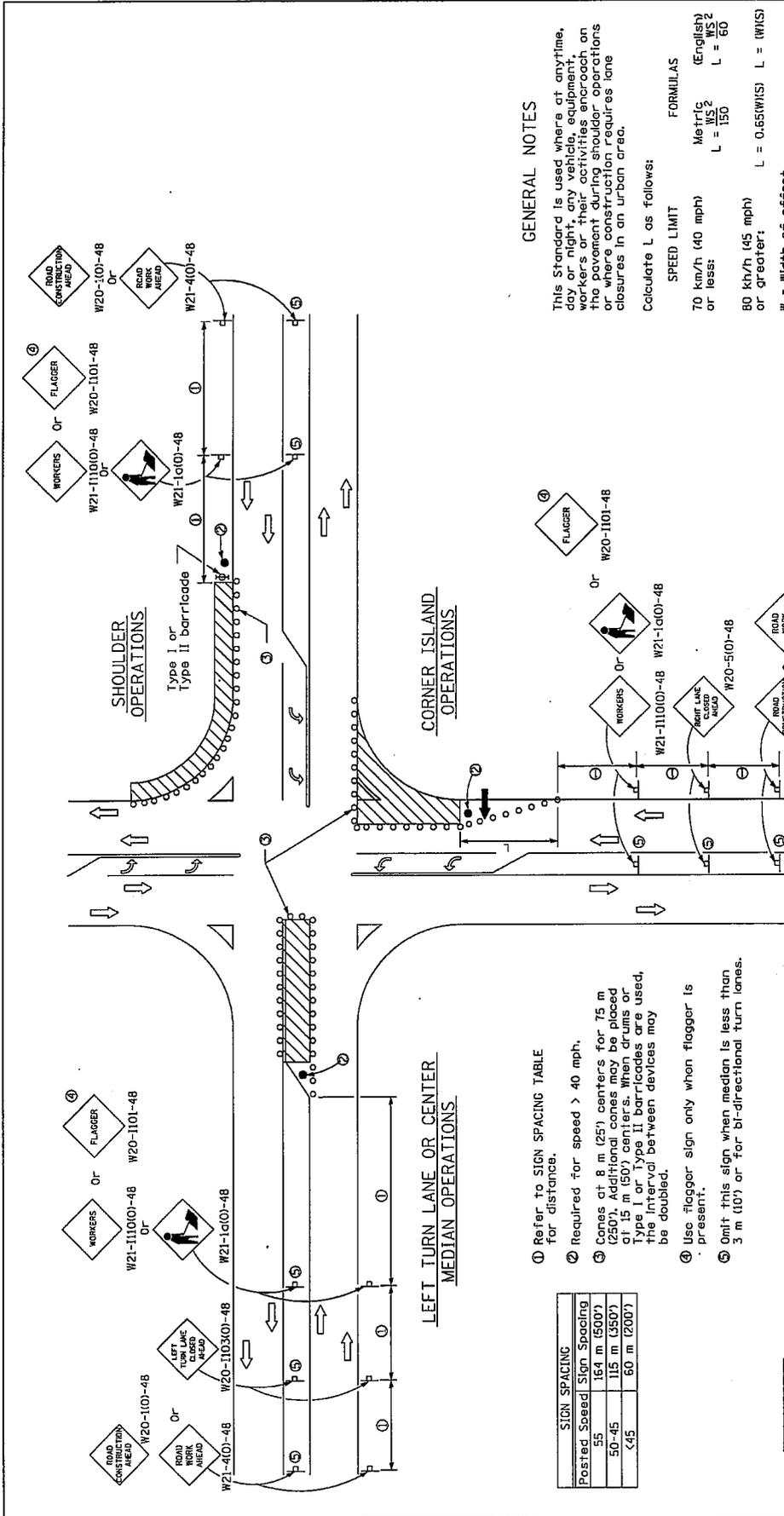
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SSpg 575/701.16]

4. Channeling devices for nighttime lane closures on multi-lane roads. Lights Required: Steady burn mono-directional lights. [SS pg. 575 / 701.16]

General Information:

This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans approved by the Engineer will be required.

FOR INFORMATIONAL USE ONLY



GENERAL NOTES

This Standard is used where at anytime, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

Calculate L as follows:

SPEED LIMIT FORMULAS

70 km/h (40 mph) or less:	Meters (English)
$L = \frac{WS^2}{150}$	$L = \frac{WS^2}{90}$

80 km/h (45 mph) or greater: $L = 0.65(WIS)$ $L = (WIS)$

W = Width of offset in meters (feet).

S = Normal posted speed in km/h (mph).

All dimensions are in millimeters (inches) unless otherwise shown.

SYMBOLS

- ① Refer to SIGN SPACING TABLE for distance.
- ② Required for speed > 40 mph.
- ③ Cones at 8 m (25') centers for 75 m (250'). Additional cones may be placed at 15 m (50') centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Use flagger sign only when flagger is present.
- ⑤ Omit this sign when median is less than 3 m (10') or for bi-directional turn lanes.

- Work area
- Cone, drum or barricade
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

SIGN SPACING

Posted Speed	Sign Spacing
55	164 m (500')
50-45	115 m (350')
<45	80 m (200')



DATE	REVISIONS
1-1-05	Deleted FLAGGER SYMBOL signs and repositioned flagger.
1-1-00	Revised GENERAL NOTES.

Illinois Department of Transportation
 APPROVED January 1, 2005
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2005
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

URBAN LANE CLOSURE, MULTILANE INTERSECTION

STANDARD 701701-04

Standard 701701.

“NO PARKING” signs shall be installed throughout the work area.

When the work area is in the parking lane and parking exists during work hours, "ROAD CONSTRUCTION AHEAD" or "ROAD WORK AHEAD" signs shall be installed 200 ft (60 m) in advance of the work area and the area shall be delineated with cones or barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and along side the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 584 / 701.18(j)(1)]

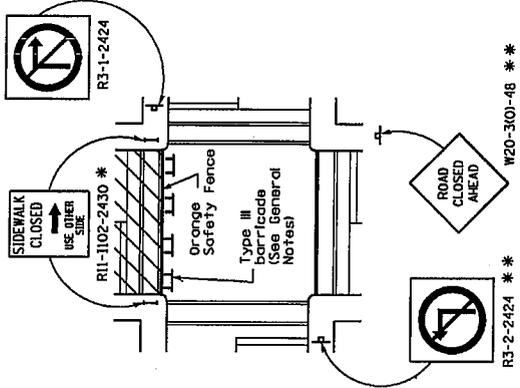
Various Specifications:

1. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 572 / 701.13(a)]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 572 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [SS pg. 575 / 701.16]
4. Channelizing devices for nighttime lane closures on two-lane roads. Lights Required. Steady burn bi-directional lights. [SS pg. 575 / 701.16]

General Information:

When the median is less than 10 ft (3.0 m), signing shall be relocated to a corresponding position on the shoulder.

FOR INFORMATIONAL USE ONLY

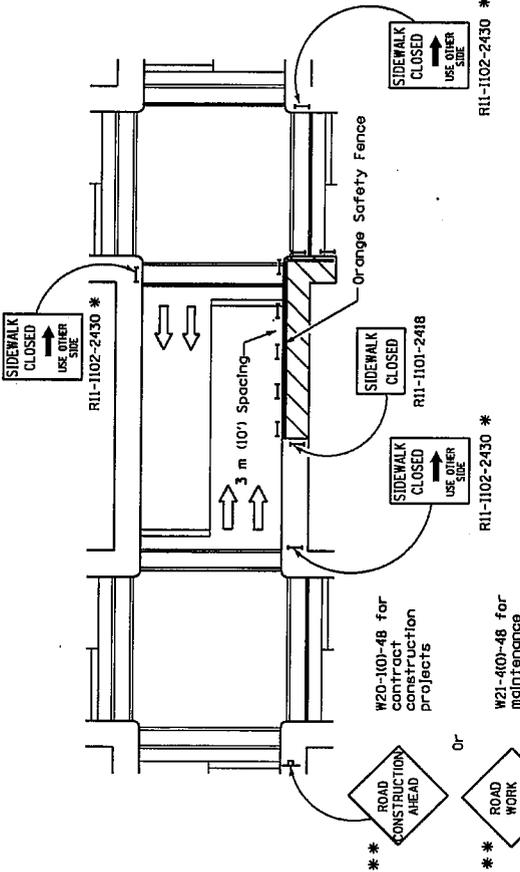


CROSSWALK CLOSURE

GENERAL NOTES

Where, at any time, pedestrian traffic must be rerouted due to work being performed, the SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the sign shall be placed on the corner. At the address the sign shall be placed at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail Standard 702001.

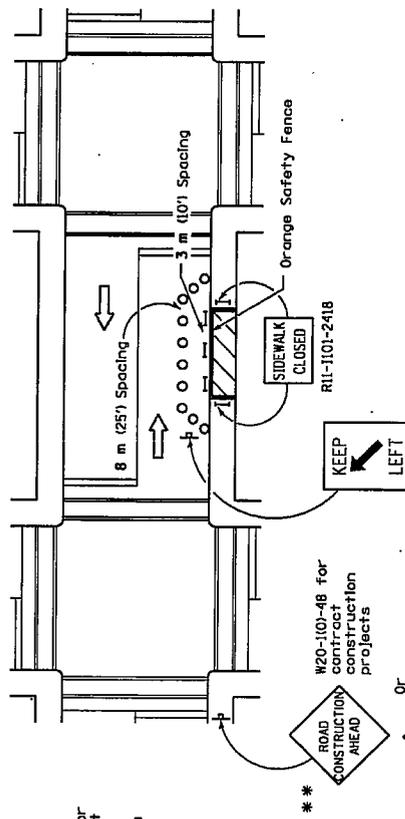


CORNER CLOSURE

SYMBOLS

- Work area
- Sign on portable or permanent support
- Barricade or drum
- Cone, drum or barricade
- Type III barricade

34



MID-BLOCK CLOSURE

Illinois Department of Transportation

APPROVED: [Signature] 2000
 ENGINEER OF OPERATIONS

ISSUED: 1-1-97

APPROVED: [Signature] 2000
 ENGINEER OF OPERATIONS

APPROVED: [Signature] 2000
 ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-00	Revised Standard Title and KEEP LEFT sign number.
1-1-99	Revised barricade or drum symbol.

LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE

STANDARD 701801-03

** Unit whenever duplicated by road work traffic control, unless otherwise shown.

* May be used when applicable

** W21-1101-48 for contract construction projects

** W21-4101-48 for maintenance and utility projects

** W21-1101-48 for contract construction projects

** W21-4101-48 for maintenance and utility projects

Standard 701801.

(1) "NO PARKING" signs shall be installed throughout the work area. [SS page 584 / 701.18(j)(1)]

Where a temporary walkway encroaches on an existing parking lane, the lane shall be closed with cones, barricades, or drums.

Where a temporary walkway encroaches on a traveled lane, the lane shall be closed according to Standards 70501, 701601, or 701606.

All walkways shall be clearly identified, protected from motor vehicle traffic and free of any obstructions and hazards, such as holes, debris, construction equipment, and stored materials.

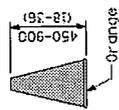
All hazards near or adjacent to walkways shall be clearly delineated.

When barricades are impractical to use or do not provide enough protection, orange safety fence shall be used to close off an area, with the approval of the Engineer. [SS pg. 585 / 701.18(j)(4)]

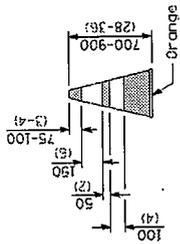
Various Specifications:

1. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 572 / 701.13(a)]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. [SS pg. 572 / 701.14]
3. Channelizing devices for nighttime lane closures on two-lane roads. Lights Required: Steady burn bi-directional lights. [SS pg. 575 / 701.16]

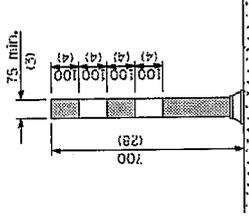
FOR INFORMATIONAL USE ONLY



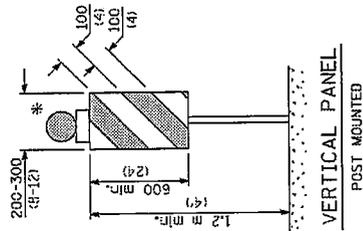
CONE



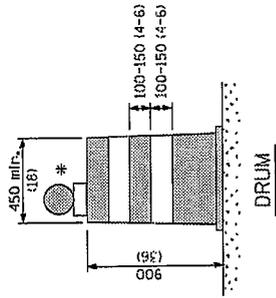
REFLECTORIZED CONE



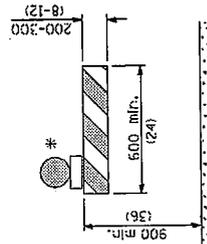
FLEXIBLE DELINEATOR



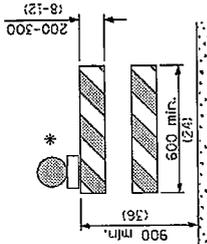
VERTICAL PANEL
POST MOUNTED



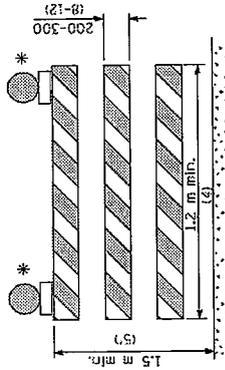
DRUM



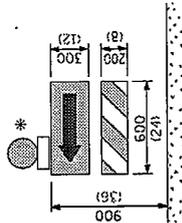
TYPE I BARRICADE



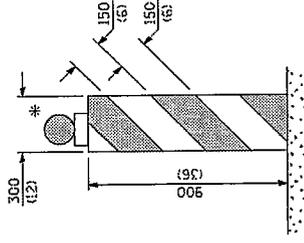
TYPE II BARRICADE



TYPE III BARRICADE



DIRECTION INDICATOR
BARRICADE



VERTICAL BARRICADE

35

* Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.
All dimensions are in millimeters (inches) unless otherwise shown.

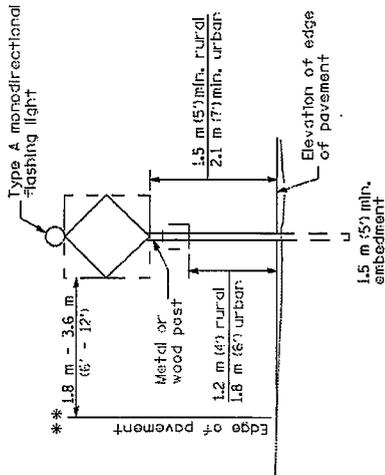
DATE	REVISIONS
4-1-06	Revised vert. barricade, post mounted signs, and signs on temp. supports.
1-1-05	Added note to work limit starting and re-added Type I barricade.

TRAFFIC CONTROL DEVICES

(Sheet 1 of 3)

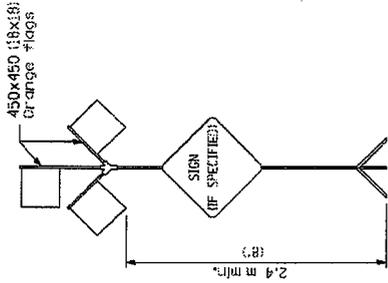
STANDARD 702001-06

Illinois State Highway of Transportation
APPROVED: _____ DATE: _____ 2006
ENGINEER OF OPERATIONS
APPROVED: _____ DATE: _____ 2006
SUPERVISOR OF HIGHWAY MAINTENANCE



POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 600 (24) to the face of curb or 1.8 (6') to the outside edge of the paved shoulder.



HIGH LEVEL WARNING DEVICE

ROAD CONSTRUCTION NEXT X MILES
020-140-6036

END CONSTRUCTION
020-240-6024

This signing is required for all projects 3200 m (2 miles) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 150 m (500') in advance of project limits.

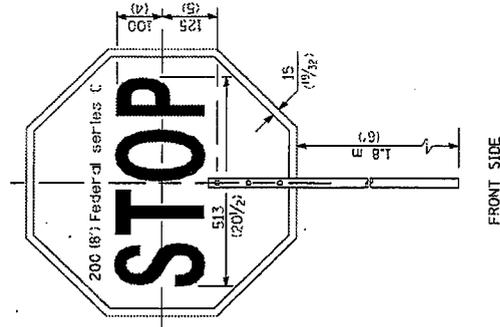
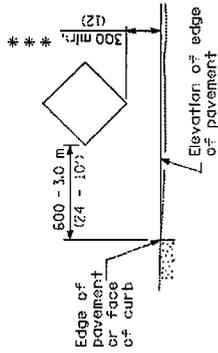
END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 3200 m (2 miles).

Dual sign displays shall be utilized on multi-lane highways.

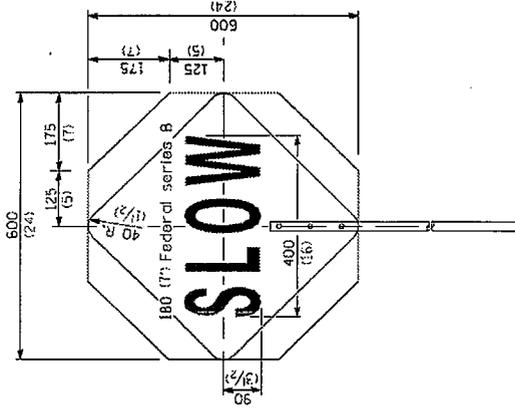
WORK LIMIT SIGNING

SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 1.5 m (5') min.



FRONT SIDE



REVERSE SIDE

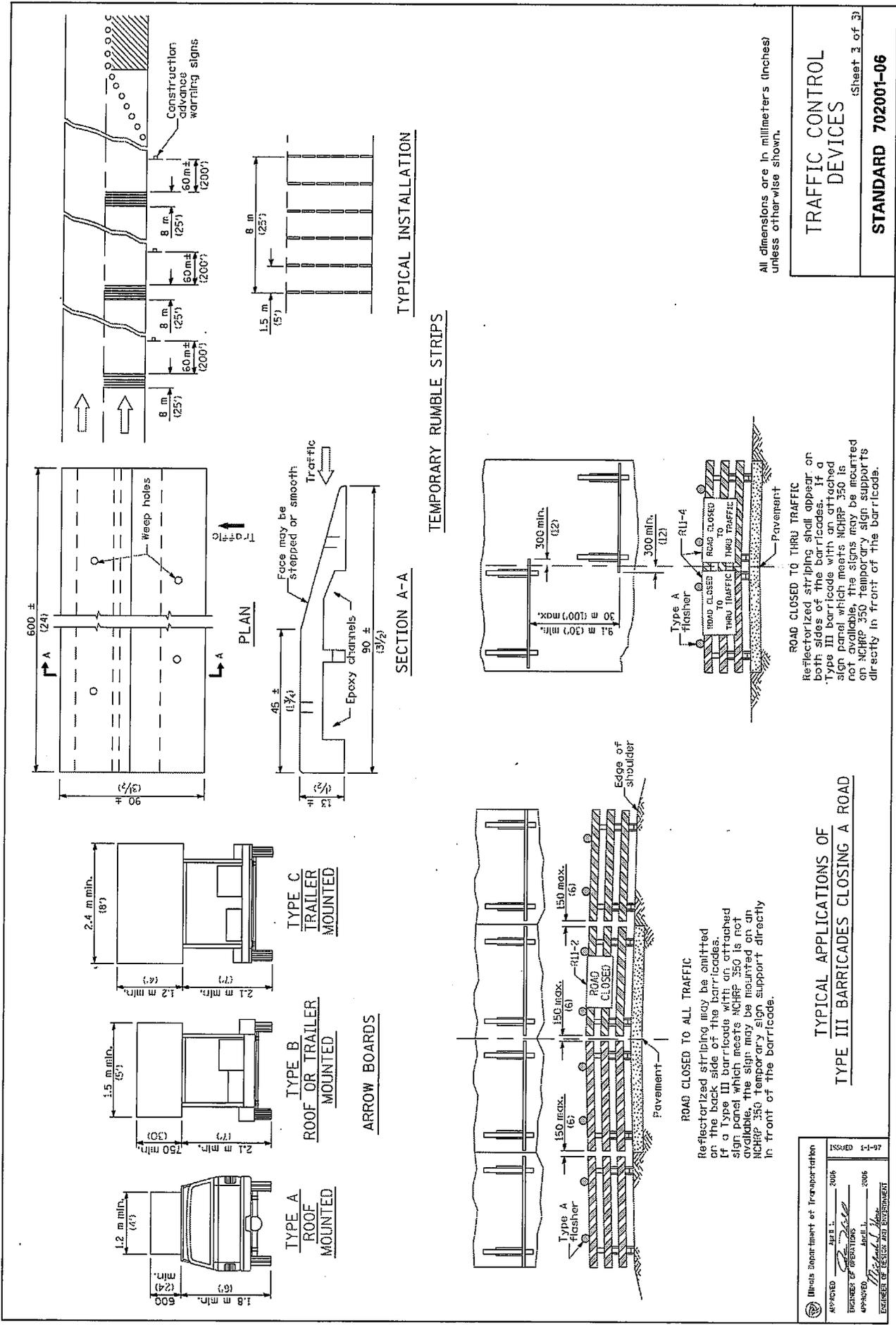
FLAGGER TRAFFIC CONTROL SIGN

Illinois Department of Transportation
 APPROVED: APR 11 2006
 ENGINEER OF TRANSPORTATION
 APPROVED: APR 11 2006
 ENGINEER OF DESIGN AND ENVIRONMENT

All dimensions are in millimeters (inches) unless otherwise shown.

TRAFFIC CONTROL DEVICES
(Sheet 2 of 3)

STANDARD 702001-06



Illinois Department of Transportation
 APPROVED: [Signature] 0006
 ENGINEER OF OPERATIONS
 APPROVED: [Signature] 0006
 ENGINEER OF TESTING AND EQUIPMENT

TYPICAL APPLICATIONS OF
 TYPE III BARRICADES CLOSING A ROAD

ROAD CLOSED TO ALL TRAFFIC
 ReflectORIZED striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.

ROAD CLOSED TO THRU TRAFFIC
 ReflectORIZED striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

TRAFFIC CONTROL
 DEVICES

STANDARD 702001-06

All dimensions are in millimeters (inches) unless otherwise shown.

Standard 702001.

701.15 Traffic Control Devices. The number, type, color, size, and placement of traffic control devices shall be according to the traffic control plan, the MUTCD, and the Department's "Quality Standard for Work Zone Traffic Control Devices". Work shall not begin until the Engineer has determined the devices meet the quality requirements.

For devices covered by NCHRP 350, the Contractor shall provide a manufacturer's self-certification letter for each Category 1 device and an FHWA acceptance letter for each Category 2 and Category 3 device used on the contract. The letters shall state the device meets NCHRP Report 350 requirements for its respective category and test level, and shall include a detailed drawing of the device. The set-up and use of certified/accepted devices shall be the same as that described in the letter.

All devices shall be kept clean. Any device which has become ineffective due to damage or defacement shall be replaced.

Devices having angled striping shall be oriented with the stripes sloping down toward the side on which traffic will pass. Lights on devices shall be mounted on the side of the device on which traffic shall pass and shall not obscure any reflectorized portion of the device.

Where more than one type of device is permissible, only one type of device shall be used within that individual run of devices or lane closure taper.

Additional requirements for the use of specific devices are as follows.

- (a) Cones. Cones are used to channelize traffic during daylight operations. Reflectorized cones are for nighttime operations, but shall only be used when specified in the plan or when approved by the Engineer.
- (b) Type I, II, and III Barricades. Type I and Type II barricades are used to channelize traffic; to delineate unattended obstacles, patches, excavations, drop-offs, and other hazards; and as check barricades.

Type I barricades are for use on roads with normal posted speeds of 40 mph or less. However, they may be used on higher speed roads provided the reflective area of the upper rail is at least 2 sq. ft. (0.18 sq m).

Type III barricades are used to close lanes and to close roads.

- (c) Vertical Barricades. Vertical barricades are used to channelize traffic, as well as to delineate unattended obstacles, patches excavations, drop-offs, and other hazards. Vertical barricades shall not be used in lane closure tapers or as check barricades.

Standard 702001. Continued

- (d) Vertical Panels. Vertical panels are used to channelize traffic and to delineate unattended excavations and drop-offs.
- (e) Direction Indicator Barricades. Direction indicator barricades are used in lane closure tapers.
- (f) Drums. Drums are used to channelize traffic and to delineate unattended obstacles, patches, excavations, drop-offs, and other hazards.
- (g) Flexible Delineators. Flexible delineators are used to channelize traffic. They shall only be used when specified.
- (h) Truck Mounted Attenuators. Trailing vehicles shall be between 200 and 500 ft (60 and 150 m) behind the vehicle ahead or the workers.
- (i) Arrow Boards. Arrow boards are used to warn motorists of an upcoming lane closure. Arrow boards shall not be used to direct passing moves into lanes used by opposing traffic or to shift traffic without having a lane change.

On roads with normal posted speeds of 45 mph and above, Type C units shall be used for all operations 24 hours or more in duration, and Type B units may be used for operations less than 24 hours in duration. On roads with normal posted speeds less than 45 mph, Type A, B, or C units may be used for all operations.

- (j) Portable Changeable Message Signs. These signs shall be furnished, placed, and maintained according to the traffic control plan as directed by the Engineer.

The Contractor shall supply the modem, the cellular phone, and the necessary software to run the sign from a remote computer at a location designated by the Engineer. The Contractor shall promptly program and / or reprogram the computer to provide the messages as directed by the Engineer.

The Contractor shall provide all preventive maintenance efforts deemed necessary to achieve uninterrupted service. If service is interrupted for any cause and not restored within 24 hours, the Engineer will cause such work to be performed as may be necessary to provide this service and the cost of such work will be deducted from compensation due or which may become due the Contractor under the contract.

- (k) Temporary Ruble Strips. Temporary rumble strips shall be placed snugly against one another and attached to the pavement with an adhesive meeting the recommendations of the rumble strip manufacturer.

Standard 702001. Continued

701.14 Signs. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. When approved by the Engineer, temporary sign supports may be used where posts are impractical. When post mounting is not required, either temporary sign supports or sign trailers may be used.

Post mounted signs shall be a “breakaway” design as shown on the plans. The signs shall be within five degrees of vertical. Two posts shall be used for signs greater than 16 sq ft (1.5 sq m) in area or where the height between the sign and the ground exceeds 7 ft (2.1 m). Bracing no heavier than 2 x 4 in. (50 x 100 mm) wood may be used for added support and shall be placed parallel to the road sloping down toward approaching traffic.

Signs on temporary supports shall meet the requirements of NCHRP Report 350. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support as per the manufacturer’s specifications.

Sign trailers, when erected, shall have their tires resting on the ground or elevated a maximum of 6 in. (150 mm) above the ground. Weights used to stabilize the trailer shall be sandbags mounted a maximum of 12 in. (300 mm) above the ground. To prevent wind induced rolling of the trailer, the wheels shall be chocked with sandbags or the trailer tongue may be pinned. The pinning method shall be designated to give way in the event of a vehicular impact and shall meet the approval of the Engineer.

The sign trailer shall only be attached to its tow vehicle when the sign is actually being moved. The tow vehicle, when not attached to the trailer, shall be parked according to Article 701.11.

Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer.

- (a) “ROAD CONSTRUCTION AHEAD” Signs. “ROAD CONSTRUCTION AHEAD” signs shall be erected on all side roads located within the limits of the mainline “ROAD CONSTRUCTION AHEAD” signs.
- (b) Work Zone Speed Limit Signs. Work zone speed limit signs assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be placed 500 ft (150 m) beyond the last entrance ramp for each interchange or sideroad.

All permanent “SPEED LIMIT” signs located within the work zone shall be removed or covered. This work shall be coordinated with the lane closure(s) by promptly establishing a reduced posted speed zone when the lane closure(s) are put into effect and promptly reinstating the posted speed zone with the lane closure(s) are removed.

Standard 702001. Continued

The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closure(s).

The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies shown within the lane closure(s) will not be required when the worker(s) are located behind a concrete barrier wall.

701.16 Lights. Lights shall be used on devices as required in the traffic control plan and the following table.

Circumstance	Lights Required
Daylight operations	None
First two warning signs on each approach to the work involving a nighttime lane closure	Flashing mono-directional lights
Devices delineating isolated obstacles, excavations, or hazards at night. (Does not apply to patching)	Flashing bi-directional lights
Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night. (Does not apply to widening)	Steady burn bi-directional lights
Channelizing devices for nighttime lane closures on two-lane roads	Steady burn bi-directional lights
Channelizing devices for nighttime lane closures on multi-lane roads	Steady burn mono-directional lights
Devices in nighttime lane closure tapers	Steady burn mono-directional lights
Devices delineating a widening trench	None
Devices delineating patches at night on roadways with an ADT less than 25,000	None

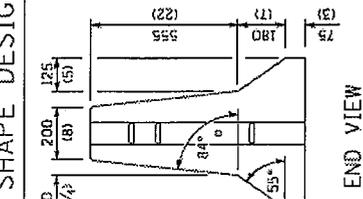
Standard 702001. Continued

Devices delineating patches at night on roadways with an ADT of 25,000 or more Steady burn mono-directional lights

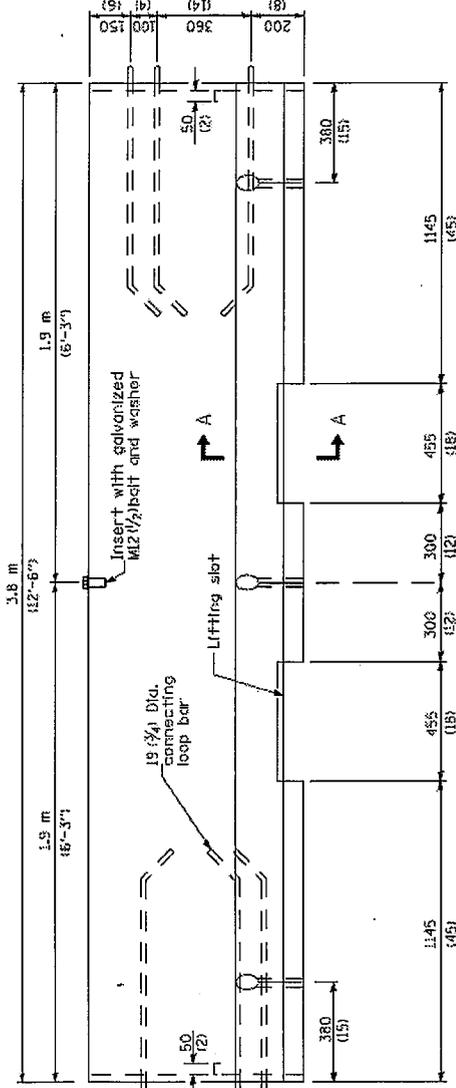
Batteries for the lights shall be replaced on a group basis at such times as may be specified by the Engineer.

FOR INFORMATIONAL USE ONLY

F SHAPE DESIGN

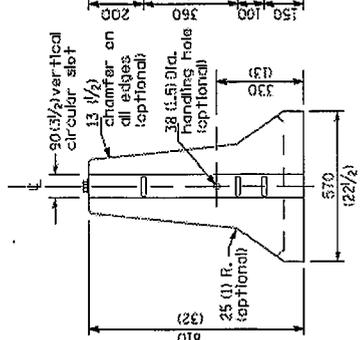


END VIEW



ELEVATION

(Showing connecting loop bars and vertical panel bolt/insert)

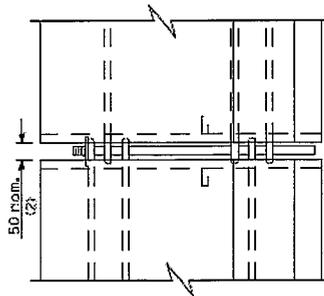


END VIEW

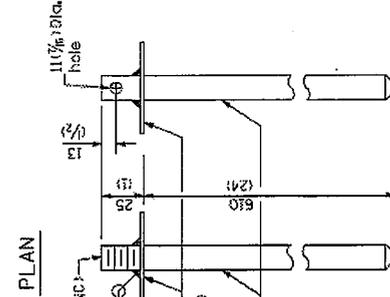
(Showing lifting slot)



SECTION A-A
LIFTING SLOT



CONNECTING DETAIL



PLAN

63 (2 1/2) measured from face of barrier to end of loop bar

GENERAL NOTES

Each F shape barrier shall be clearly marked with "ILLINOIS F SHAPE", the Producer's mark and the date of manufacture. The markings shall be indented on the barrier or printed thereon with waterproof paint/ink.

The insert for the M12 1/2 bolt shall be capable of 13 KN (3,000 lbf) pull-out strength.

All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS
1-1-07	Deleted New Jersey shape (Sheet 3).
1-1-04	Revised reinforcement and added transverse ribs.

DATE	REVISIONS
1-1-07	Deleted New Jersey shape (Sheet 3).
1-1-04	Revised reinforcement and added transverse ribs.

DATE	REVISIONS
1-1-07	Deleted New Jersey shape (Sheet 3).
1-1-04	Revised reinforcement and added transverse ribs.

TEMPORARY CONCRETE BARRIER
(Sheet 1 of 2)

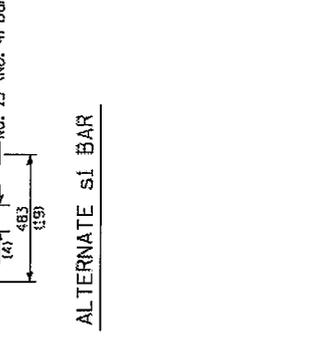
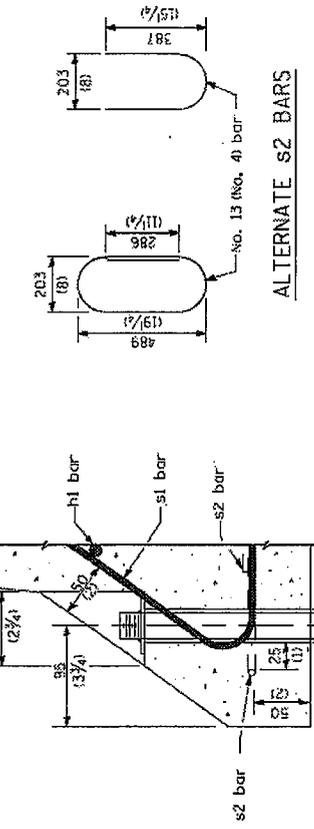
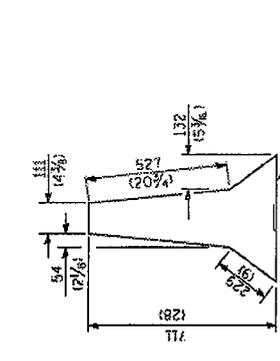
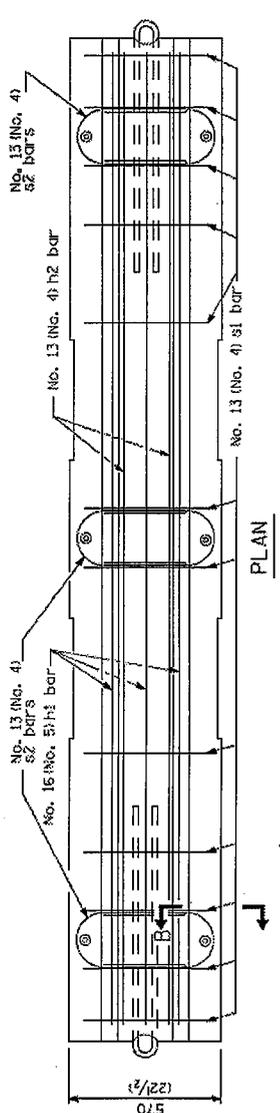
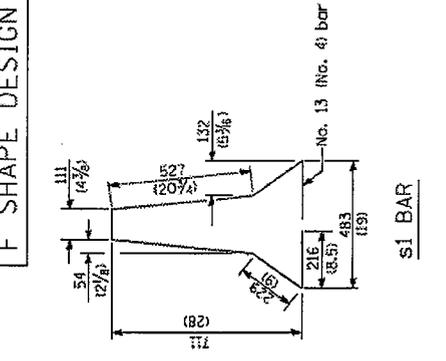
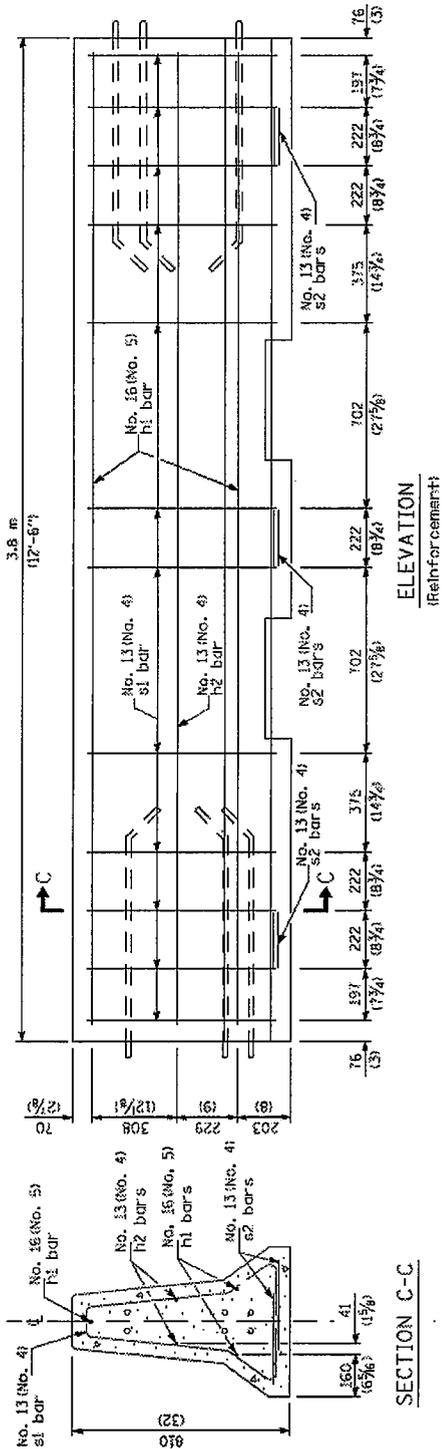
STANDARD 704001-03

ILLINOIS Department of Transportation
ISSUED 10-1-03
PASSED 2004
ENGINEER SPECIALTY AND PROCEDURES
APPROVED JANUARY 1, 2001
Michael J. Deane
ENGINEER OF DESIGN AND ENVIRONMENT

ALTERNATE CONNECTING AND ANCHOR PINS
(End may be beveled 6 (1/4) max.)

36

F SHAPE DESIGN



TEMPORARY CONCRETE BARRIER
(Sheet 2 of 2)

STANDARD 704001-03



Illinois Department of Transportation

ISSUED 10-1-02

DESIGNED BY: J. L. J. 2007

ENGINEER: J. L. J. 2007

APPROVED: J. L. J. 2007

ENGINEER OF DESIGN AND CONSTRUCTION: J. L. J. 2007

SECTION 704. TEMPORARY CONCRETE BARRIER

704.01 Description. This work shall consist of furnishing, placing, maintaining, relocating, and removing precast concrete barrier at temporary locations.

704.03 General. Precast concrete barrier shall be the F shape as detailed on the plans.

704.04 Installation. The barriers shall be seated on bare, clean pavement or paved shoulder and pinned together in a smooth, continuous line at the exact locations provided by the Engineer. The barrier unit at each end of the installation shall be secured to the pavement or paved shoulder using six anchoring pins and protected with an impact attenuator as shown on the plans.

Barriers or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

The barriers shall be removed when no longer required by the contract. After removal, all anchoring holes in the pavement or paved shoulder shall be filled with a rapid hardening mortar or concrete. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

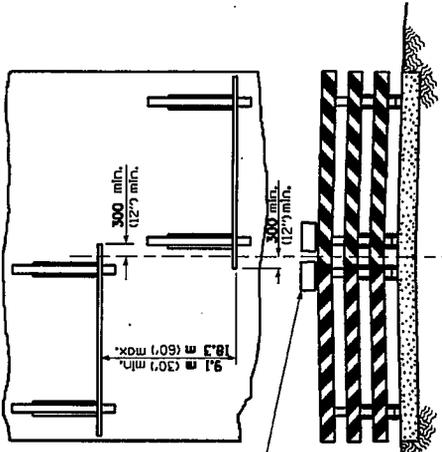
704.05 Method of Measurement. This work will be measured for payment in feet (meters) in place along the centerline of the barrier. When the barrier is relocated within the limits of the jobsite, the relocated barrier will be measured for payment in feet (meters) in place along the centerline of the barrier.

704.06 Basis of Payment. When the Contractor furnishes the barrier, this work will be paid for at the contract unit price per foot (meter) for TEMPORARY CONCRETE BARRIER or RELOCATE TEMPORARY CONCRETE BARRIER.

When the Department furnishes the barrier, this work will be paid for at the contract unit price per foot (meter) for TEMPORARY CONCRETE BARRIER, STATE OWNED; or RELOCATE TEMPORARY CONCRETE BARRIER, STATE OWNED.

Impact attenuators will be paid for separately.

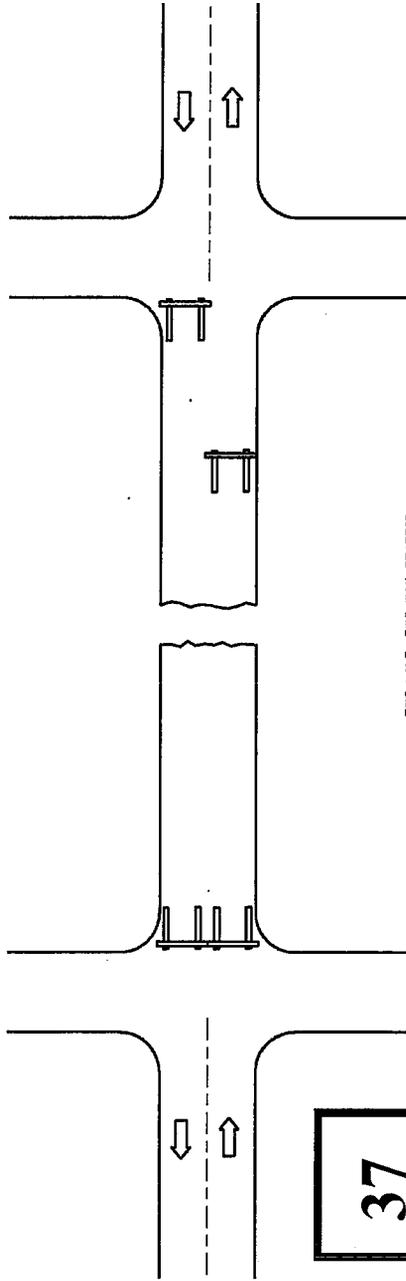
FOR INFORMATIONAL USE ONLY



Type III Barricades with Standard Sign R11-2 or R11-4 mounted as shown.

Resident traffic and day labor force's equipment to use road shoulder for passing barricade.

Use when shoulders are too narrow for passage of traffic.



TWO-LANE, TWO-WAY TRAFFIC,
RURAL OPERATIONS EXCEEDING
ONE DAYLIGHT PERIOD

GENERAL NOTES

Type III barricades to be width of pavement only.

ReflectORIZED striping shall appear on both sides of barricades. Barricades shall be positioned so that stripes slope downward toward the side on which traffic is to pass.

Although not shown, advance warning signs having minimum dimensions of 300 mm (36") by 900 mm (36") and black legends on orange reflectORIZED backgrounds shall be utilized where needed.

This case is for use on rural local roads where the local authority considers this protection to be appropriate for the specific job conditions.

All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS
1-1-98	Rev. "R11-1" to "R11-4"
	Rev. 4th General Note.
1-1-97	Revised Standard
	B.L.R. 17-1

TRAFFIC CONTROL DEVICES - DAY LABOR CONSTRUCTION

STANDARD B.L.R. 17-3

Illinois Department of Transportation
 APPROVED: [Signature] 1-1-98
 ENGINEER OF LOCAL ROADS AND STREETS
 APPROVED: [Signature] 1-1-98
 ENGINEER OF DESIGN AND INSTRUMENTATION

ISSUED 1-1-97

GENERAL NOTES

Maintenance operations shall be confined to one traffic lane, leaving the opposite lane open for traffic. Signs shall be installed for both traffic lanes shall be installed for traffic movement between work areas at intervals not greater than 300 m (1000').

Minimum distance between the sign and the work area is 215 m (700'). Maximum distance to be determined by the local authority but no greater than 1000 m (3280') and no less than day's operation or 6 km (4 miles), whichever is less.

When operations are on the pavement and stationary or moving at a speed less than 6 kph (4 mph), a ONE LANE AHEAD, or other appropriate sign, shall be installed in each direction of travel. The ONE LANE AHEAD sign and the work area shall be separated by a minimum of 120 m (400') but in no case to exceed the length of one-half day's operation or 6 km (4 miles), whichever is less. The distance between the two signs shall be approximately 120 m (400').

All signs are to be removed at completion of the day's operation.

Any unattended abutment, excavation or pavement drop off greater than 75 mm (3") in the work area shall be protected by Type I or Type II Barricades with flashing lights.

Longitudinal dimensions may be adjusted slightly to fit field conditions.

All vehicles, equipment, men, and their activities shall be restricted to all times to one side of the pavement.

Flashing lights or rotating beacons are required for all maintenance vehicles while in operation.

Applicable operations illustrated in Standard 701.301 may be used when operations do not exceed 15 minutes on the pavement or 60 minutes on the shoulder respectively.

All warning signs shall have minimum dimensions of 300 mm x 300 mm (16x36") and have black legend on an orange reflectorized background.

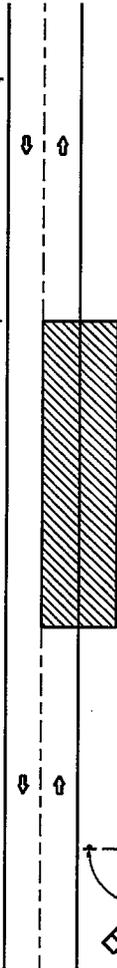
This case is for use on rural local roads where the local authority considers this protection to be appropriate for the specific job conditions.

When fluorescent signs are used orange flags are not required.

All dimensions are in millimeters (inches) unless otherwise shown.



Varies
(See General Note 1)



**THRU-LANE, TWO-WAY TRAFFIC
RURAL OPERATIONS
DAY OPERATIONS ONLY**

TYPICAL APPLICATIONS

- MOVING
- SPREADING AGGREGATE
- SEED SPREADING
- SURFACE MAINTENANCE
- BITUMINOUS RESURFACING
- CRACK POURING
- SHOULDER REPAIR
- CLEANING DITCHES

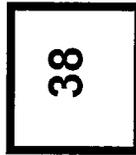
SYMBOLS



Work area



Sign with 450 (18) by 450 (18) (minimum) orange flag attached



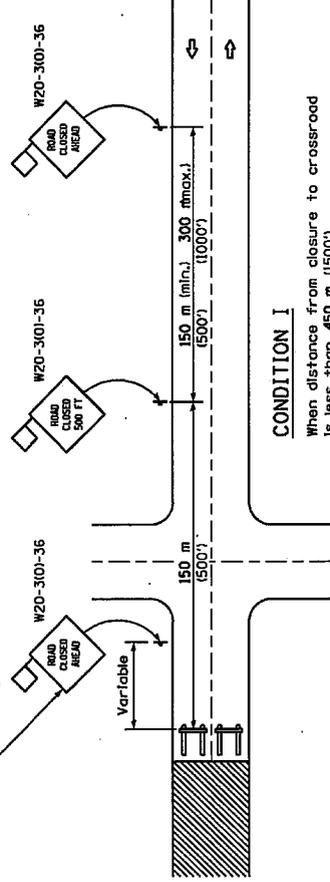
DATE	REVISIONS
1-1-99	Delete ROW Line
1-1-98	Rev. lights.
	Rev. 1st, 2nd, 8th, and 10th General Notes.

**TRAFFIC CONTROL
DEVICES-DAY LABOR
MAINTENANCE**

STANDARD B.L.R. 18-4

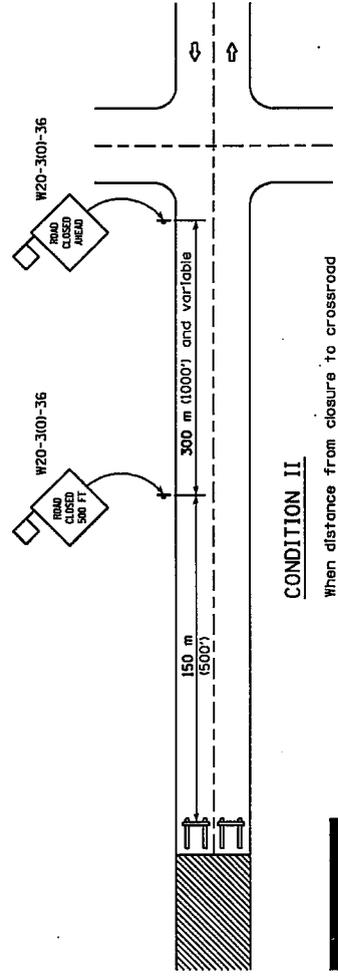
Illinois Department of Transportation
 APPROVED: _____ 1999
 DESIGNER: *David L. DeGruy*
 DIVISION: *Office of Traffic and Safety*
 PROJECT: *18-4*
 SHEET NO. 18-4-10101-36

Sign may be omitted when distance is less than 45 m (150').



CONDITION I

When distance from closure to crossroad is less than 450 m (1500')



CONDITION II

When distance from closure to crossroad is greater than 450 m (1500')

SYMBOLS

- Work area
- Type III Barricade
- Sign with 450 (18) by 450 (18) minimum orange flag attached

39

GENERAL NOTES

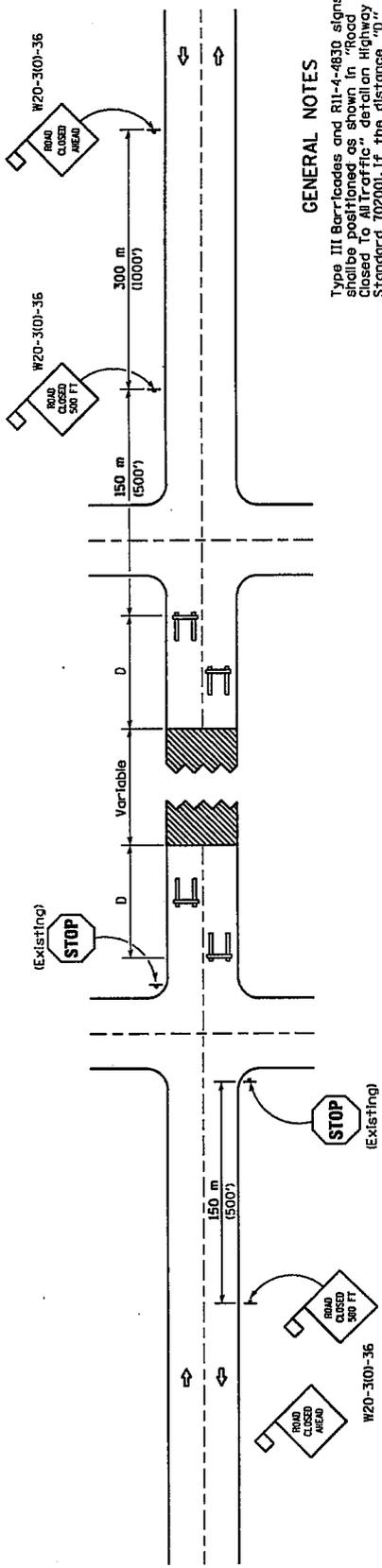
- Type III Barricades and R11-2-4830 signs shall be positioned as shown in "Road Closed to All Traffic" detail on Highway Standard 702001.
- Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work zone. The lights shall be on at all times. One light shall be installed above the barricades and the other above the first advance warning sign.
- All signs shall be post mounted if the closure time exceeds four days.
- All warning signs shall have minimum dimensions of 900 mm (36") by 500 mm (36") and have a black legend on an orange reflectorized background.
- All work zone signs are required to meet, as a minimum, Type B reflectivity requirements of Table 109-2 in Article 1091.02 of the Standard Specifications.
- Longitudinal dimensions may be adjusted to fit field conditions.
- When the distance between the barricade and the intersection is between 450 m (1500') and 600 m (2000'), the advance sign shall be placed at the intersection. When the distance between the barricade and the intersection is over 600 m (2000'), an additional sign shall be placed at the intersection. The distance to the barricade shall be the distance to the barricade in miles or fractions of a mile.
- When fluorescent signs are used, orange flags are not required.
- All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS	
STANDARD B.L.R. 21-6	
DATE	REVISIONS
1-1-03	Revised specification reference in 5th General Note.
1-1-98	Rev. 5th General Note. Added 8th General Note.

Illinois Department of Transportation
 APPROVED: January 1, 2003
 CHIEF ENGINEER
 APPROVED: January 1, 2003
 ENGINEER OF DESIGN AND ENVIRONMENT
 ISSUED: 1-1-97

CONDITION I
APPROACH TRAFFIC STOPPED

CONDITION II
APPROACH TRAFFIC DOES NOT STOP



SYMBOLS

- Work area
- Type III Barricade
- Sign with 450 (18) by 450 (18) minimum orange flag attached

GENERAL NOTES

Type III Barricades and R11-4-4830 signs shall be positioned as shown in "Road Closed To All Traffic" detail on Highway Standard 702001. If the distance "D" exceeds 600 m (2000'), an additional set of barricades and R11-4-4830 shall be placed at each end of the work area.

Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work area. One light shall be installed above each barricade. If only one barricade is required, the other light shall be installed above the first advance warning sign.

All signs shall be post mounted if the closure time exceeds four days.

All warning signs shall have minimum dimensions of 900 mm (36") by 900 mm (36") and have a black legend on an orange reflectorized background.

All work zone signs are required to meet, as a minimum, Type B reflectivity requirements of Table 1091.2 in Article 1091.02 of the Standard Specifications.

Longitudinal dimensions may be adjusted to fit field conditions.

When fluorescent signs are used, orange flags are not required.

All dimensions are in millimeters (inches) unless otherwise shown.

40

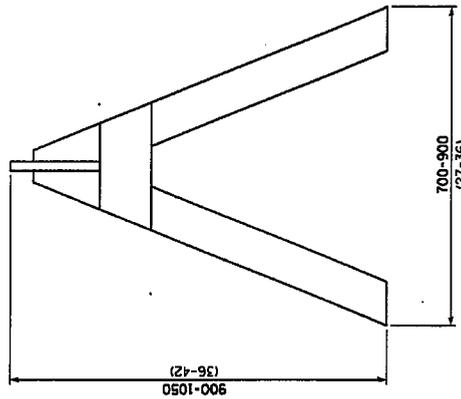
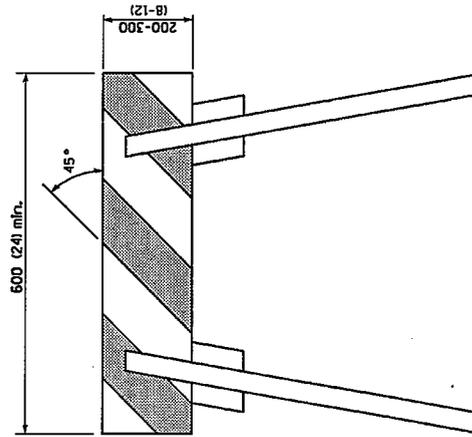
DATE	REVISIONS
1-1-03	Revised specification reference in 5th General Note.
1-1-98	Removed lights. Rev. 5th General Note.
	Added 7th General Note.

Illinois Department of Transportation
 APPROVED: *David G. Crumley*, 2003
 ENGINEER OF LOCAL ROADS AND STREETS
 APPROVED: *Michael J. White*, 2003
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

STANDARD B.L.R. 22-4



GENERAL NOTES

All dimensions are in millimeters (inches) unless otherwise shown.

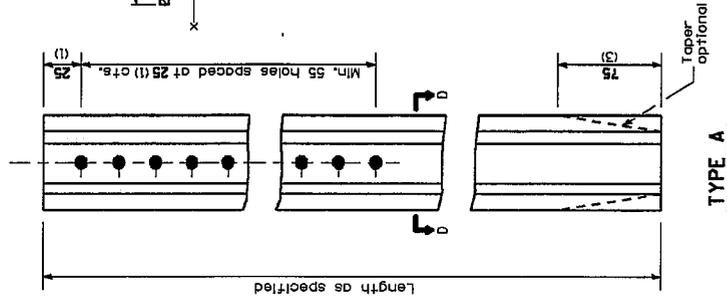
APPROVED	DATE	ISSUED
<i>[Signature]</i>	1-1-03	1-1-03
ENGINEER OF LOCAL ROADS AND STREETS		
APPROVED		
<i>[Signature]</i>		
ENGINEER OF STRUCTURE AND EQUIPMENT		

41

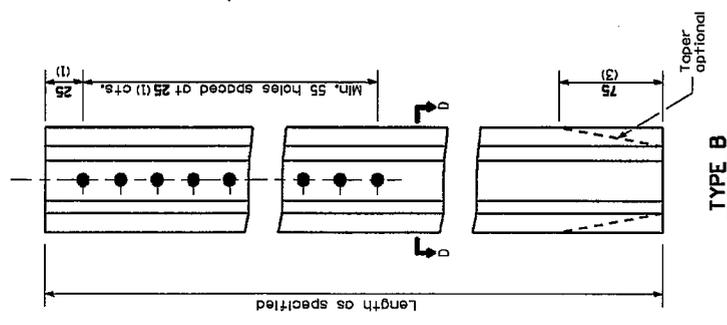
DATE	REVISIONS
1-1-03	New standard from 702001-02

TYPE 1A BARRICADE FOR NON-NHS ROUTES

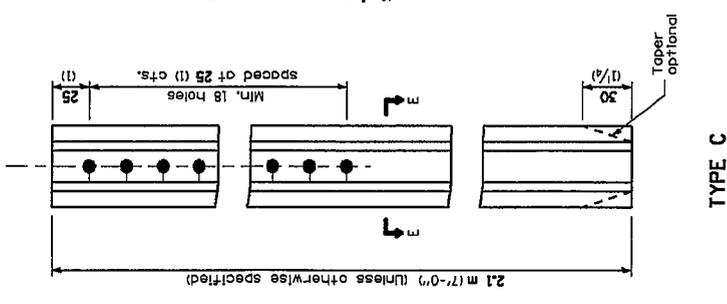
STANDARD B.L.R. 25



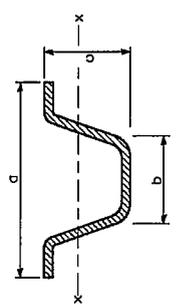
TYPE A



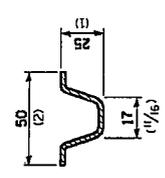
TYPE B



TYPE C



SECTION D-D



SECTION E-E

1.67 Kg/m
Steel - (1.12 lbs./ft.)

	S-x-X mm (in.)	c	b	a	kg/m (lbs./ft.)
TYPE A	Steel	37 (1 1/4)	32 (1 1/4)	76 (3 3/8)	2.98 (2.00)
	Aluminum	48 (1 7/8)	41 (1 5/8)	89 (3 5/8)	1.34 (0.90)
TYPE B	Steel	38 (1 1/2)	32 (1 1/4)	81 (3 1/8)	5.88 (4.46)
	Aluminum	60 (2 3/8)	57 (2 1/4)	118 (4 5/8)	1.93 (1.30)

GENERAL NOTES

Dimensions shown for cross sections are minimum.

All holes are 10 mm (3/8") diameter.

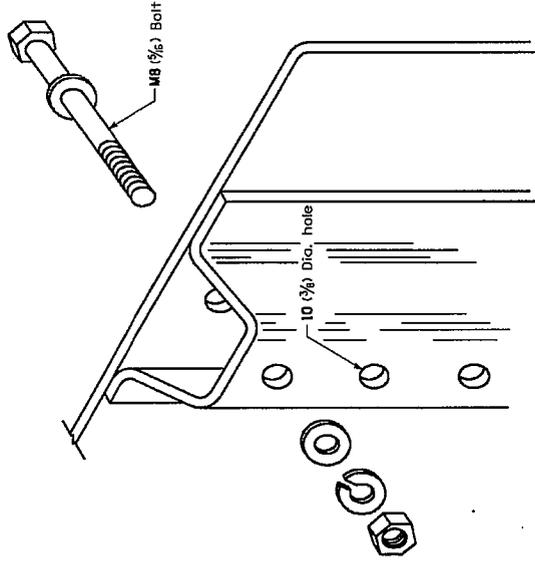
S-x-x is the minimum section modulus about the x-x axis of the post as shown. For posts in which holes are punched or drilled for more than half their length, S-x-x shall be computed for the net section.

All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS	STANDARD 720011
1-1-97	Renum. Standard 2350-4.		
6-15-94	Added Metric.		

42

PASSED _____ JANUARY 1, 1997
 ENGINEER OF SIGN AND PAVEMENTS
 APPROVED _____ JANUARY 1, 1997
 ENGINEER OF DESIGN AND ENVIRONMENT



DETAIL OF MOUNTING SIGN TO POST
NOTE: Minimum of 2 bolts per post required.

GENERAL NOTES

DESIGN: Current AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.
LOADING: for 95 km/h (60 mph) wind velocity with 30% gust factor, normal to sign.
SOIL PRESSURE: Minimum allowable soil pressure 120 kPa (1.25 tsf).
See Standard 72001 for details of Types A and B posts.

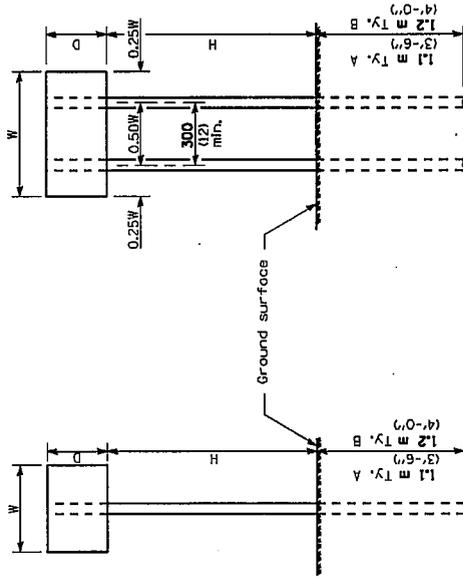
All dimensions are in millimeters (inches) unless otherwise shown.

APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)

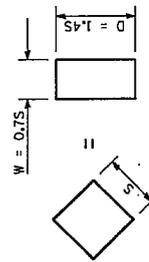
STANDARD 729001

DATE	REVISIONS
J-1-97	Renum. Standard 2363-2.
6-15-94	Moved G.N. To Specs
	Added Metric.

SIGN DEPTH (D)	H	NO. AND TYPE OF POST FOR SIGN WIDTH (W)		
		300 (12)	450 (18)	600 (24)
450 (18)	1.5 m (5'-0")	A	A	A
	1.7 m (5'-6")	A	A	A
	1.8 m (6'-0")	A	A	A
	2.0 m (6'-6")	A	A	A
	2.1 m (7'-0")	A	A	A
	2.3 m (7'-6")	A	A	A
600 (24)	2.4 m (8'-0")	A	A	A
	2.6 m (8'-6")	A	A	A
	2.7 m (9'-0")	A	A	A
	1.5 m (5'-0")	A	A	A
	1.7 m (5'-6")	A	A	A
	1.8 m (6'-0")	A	A	A
750 (30)	2.0 m (6'-6")	A	A	A
	2.1 m (7'-0")	A	A	A
	2.3 m (7'-6")	A	A	A
	2.4 m (8'-0")	A	A	A
	2.6 m (8'-6")	A	A	A
	2.7 m (9'-0")	A	A	A
900 (36)	1.5 m (5'-0")	A	A	A
	1.7 m (5'-6")	A	A	A
	1.8 m (6'-0")	A	A	A
	2.0 m (6'-6")	A	A	A
	2.1 m (7'-0")	A	A	A
	2.3 m (7'-6")	A	A	A
1.2 m (4'-0")	2.4 m (8'-0")	A	A	A
	2.6 m (8'-6")	A	A	A
	2.7 m (9'-0")	A	A	A
	1.5 m (5'-0")	A	A	A
	1.7 m (5'-6")	A	A	A
	1.8 m (6'-0")	A	A	A
1.2 m (4'-0")	2.0 m (6'-6")	A	A	A
	2.1 m (7'-0")	A	A	A
	2.3 m (7'-6")	A	A	A
	2.4 m (8'-0")	A	A	A
	2.6 m (8'-6")	A	A	A
	2.7 m (9'-0")	A	A	A



ONE POST INSTALLATION

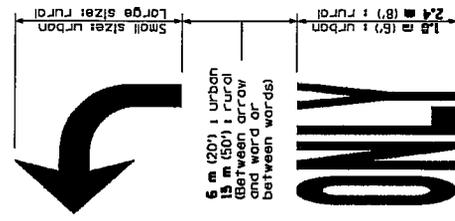
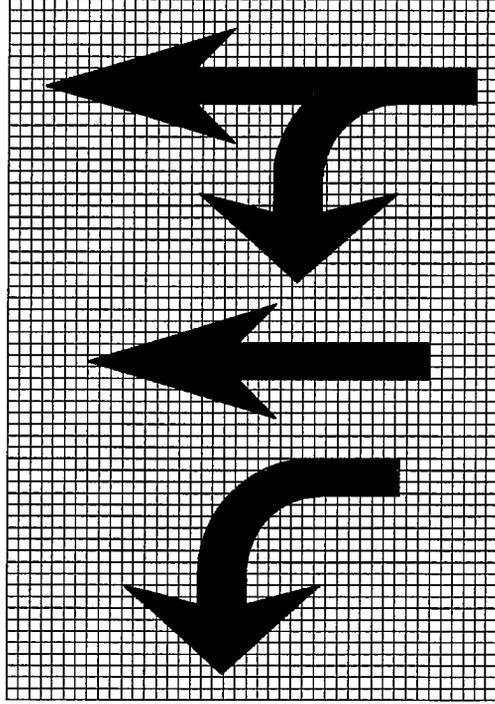
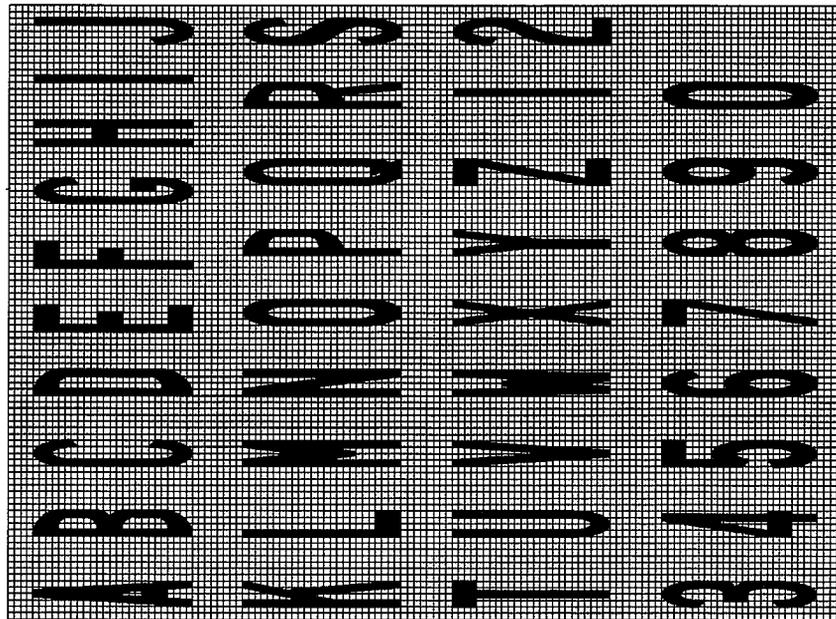


For diamond shaped sign with side S as shown, use required post size for a sign with $W = 0.7S$ and $D = 1.4S$.

43

Illinois Department of Transportation
 PASSED January 1, 1997
 ENGINEER OF STRUCTURAL FABRICATIONS
 APPROVED [Signature] January 1, 1997
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

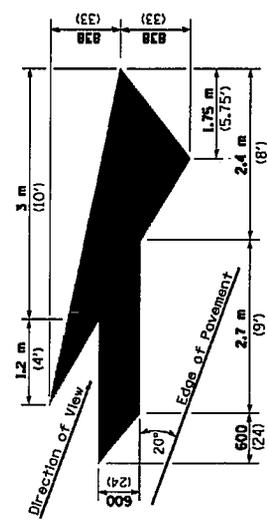


WORD AND ARROW LAYOUT

Legend Height	Arrow Size	a
1.8 m (6')	Small	74 (2.3)
2.4 m (8')	Large	96 (3.0)

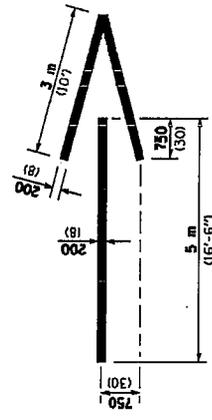
The space between adjacent letters or numerals should be approximately 75 (3) for 1.8 m (6') legend and 100 (4) for 2.4 m (8') legend.

LETTER AND ARROW GRID SCALE



LANE DROP ARROW

Right lane drop arrow shown. Use mirror image for left lane.



WRONG WAY ARROW

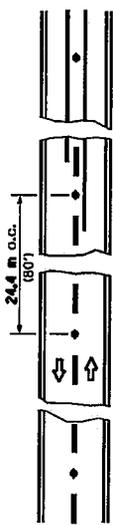
All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL PAVEMENT MARKINGS
(Sheet 2 of 2)

STANDARD 780001-01

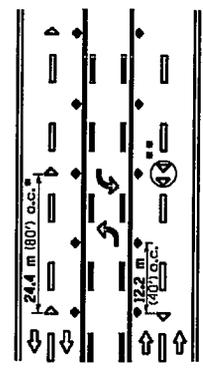
Illinois Department of Transportation
 APPROVED: [Signature] 1978
 ENGINEER OF OPERATIONS
 APPROVED: [Signature] 1975
 PROJECT ENGINEER: [Signature]

ISSUED 1-1-77



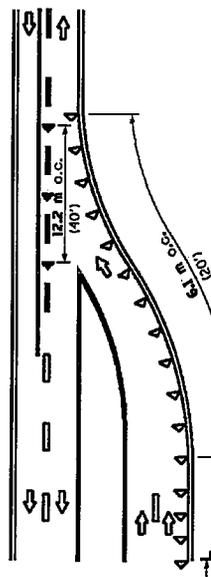
Reduce to 12.2 m (40') o.c. on curves with posted or advisory speeds of 70 km/h (45 mph) or less.

TWO-LANE / TWO-WAY

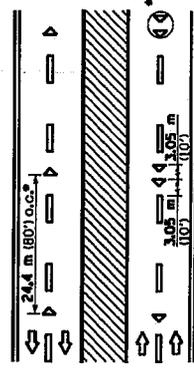


*** See MULTI LANE DIVIDED detail for lane marker notes.

TWO-WAY LEFT TURN

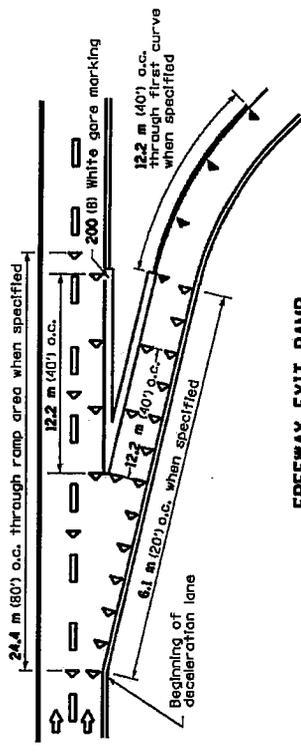


LANE REDUCTION TRANSITION

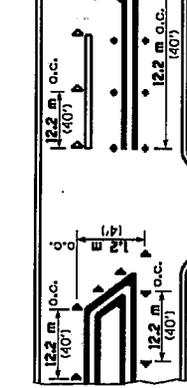
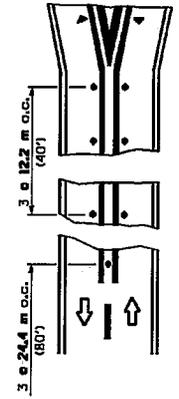


*** Where double lane line markers are specified, they shall be spaced as shown.

MULTI-LANE DIVIDED



FREEWAY EXIT RAMP



APPROVED	DATE	ISSUED
<i>[Signature]</i>	1995	1-1-97
ENGINEER OF OPERATIONS		
APPROVED	DATE	ISSUED
<i>[Signature]</i>	1983	1-1-97
ENGINEER OF OPERATIONS		

45

RURAL LEFT TURN

SYMBOLS

- Yellow stripe
- White stripe
- One-way amber marker
- One-way crystal marker
- Two-way amber marker

All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

DATE	REVISIONS
1-1-99	Extended double line to show different scenario in RURAL LEFT TURN.
1-1-98	Added "o.c." to 12.2 m dim. in RURAL LEFT TURN.

STANDARD 781001-02

Recurring, Revised and New Bureau of Design and Environment (BDE) Special Provisions which could impact your traffic control.

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
PAVEMENT AND SHOULDER RESURFACING

Effective: February 1, 2000

Revised: January 1, 2007

Revise Article 406.10 of the Standard Specifications to read:

406.10 Resurfacing Sequence. The resurfacing operations shall satisfy the following requirements:

- (a) Before paving in a lane, the adjacent lane and its shoulder shall be at the same elevation.
- (b) Each lift of resurfacing shall be completed, including shoulders, before the next lift is begun.
- (c) Elevation differences between lanes shall be eliminated within twelve calendar days."

Revise the first sentence of the eleventh paragraph of Article 406.13 of the Standard Specifications to read:

"When a HMA binder and surface course mixture is used on shoulders and is placed simultaneously with the traffic lane as specified in Section 482, the quantity of HMA placed on the traffic lane that will be paid for will be limited to a calculated tonnage based upon actual mat width and length, plan thickness or a revised thickness authorized by the Engineer, and design mix weight per inch (millimeter) of thickness."

Delete the twelfth paragraph of Article 406.13 of the Standard Specifications.

Revise the sixth paragraph of Article 482.05 of the Standard Specifications to read:

"On pavement and shoulder resurfacing projects, the resurfacing sequence shall be according to Article 406.10. When the HMA binder and surface course option is used, the shoulders may be placed, at the Contractor's option, simultaneously with the adjacent traffic lane for both courses, provided the specified density, thickness and cross slope of both the pavement and shoulder can be satisfactorily obtained."

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
TEMPORARY MODULAR GLARE SCREEN SYSTEM

Effective: January 1, 2000
Revised: January 1, 2007

Description. This work shall consist of furnishing, installing, and maintaining a temporary modular glare screen system on top of temporary barrier.

Materials. Materials shall be according to the following.

- (a) Specifications. The base unit and blades shall be supplied from the same manufacturer.

The maximum length and width of the modular base units shall equal the dimensions of the top of the individual temporary concrete barrier sections.

The glare screen blades shall be FHWA highway green in color and made of impact resistant, non-metallic, high-density plastic material. The blades shall have a height from 24 to 30 in. (600 to 750 mm) and a width from 6 to 9 in. (150 to 225 mm). The same sized blades shall be used throughout the project.

- (b) Producers. The following modular glare screen systems shall be used:

- (1) Modular Guidance System
Carsonite International
605 Bob Gifford Blvd.
Early Branch, SC 29916
Phone: (800) 648-7974
- (2) Safe-Hit Glare Screen
Safe-Hit Corporation
35 East Wacker Drive, Suite 1100
Chicago, IL 60601
Phone: (800) 537-8958
- (3) FlexStake Glare Screen
FlexStake, Inc.
2150 Andrea Lane
Ft. Myers, FL 33912
Phone: (800) 348-9839

Installation. The temporary modular glare screen system shall be installed according to the manufacturer's instructions such that it is centered along the top of the concrete barrier and does not extend over the joints between the concrete barrier

CHECK SHEET #22

sections. The glare screen blades shall be installed so the combination of blade width and spacing provide for a minimum 22 degree sight cut-off angle.

Method of Measurement. This work will be measured for payment in feet (meters) in place, along the centerline of the modular glare screen system.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for MODULAR GLARE SCREEN SYSTEM.

State of Illinois
 Department of Transportation

**SPECIAL PROVISION
 FOR
 TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNALS**

Effective: August 1, 2003
 Revised: January 1, 2007

Description. At the Contractor's option, temporary portable bridge traffic signals may be used in place of temporary bridge traffic signals. Work shall be according to Article 701.18(b) of the Standard Specifications, except as follows:

Materials. Materials shall be according to the following.

Item	Article/Section
(a) Traffic Signal Head	1078
(b) Electric Cable	1076.04
(c) Controller	1073
(d) Controller Cabinet.....	1074.03
(e) Detector Loop	1079

CONSTRUCTION REQUIREMENTS

General. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.

All signal heads located over the travel lane shall be mounted at a minimum height of 17 ft (5 m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 ft (2.4 m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.

The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.

As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation. All portable traffic signal units shall be interconnected using hardwire communication cable or radio communication equipment. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.

CHECK SHEET #23

The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV of the Manual on Uniform Traffic Control Devices (MUTCD). The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C).

When not being utilized to inform and direct traffic, portable signals shall be treated as non-operating equipment according to Article 701.11 of the Standard Specifications.

Basis of Payment. This work will be paid for according to Article 701.20(c) of the Standard Specifications.

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
WORK ZONE PUBLIC INFORMATION SIGNS

Effective: September 1, 2002
Revised: January 1, 2007

Description. This work shall consist of furnishing, erecting, maintaining, and removing work zone public information signs.

Camera-ready artwork for the signs will be provided to sign manufacturing companies upon request by contacting the Central Bureau of Operations at 217-782-2076. The sign number is W21-I116-6048.

Freeways/Expressways. These signs are required on freeways and expressways. The signs shall be erected as shown on Highway Standard 701400 and according to Article 701.14 of the Standard Specifications.

All Other Routes. These signs shall be used on other routes when specified on the plans. They shall be erected in pairs midway between the first and second warning signs.

Basis of Payment. This work will not be paid for separately but shall be considered as included in the cost of the Standard.

IMPACT ATTENUATORS, TEMPORARY (BDE)

Effective: November 1, 2003

Revised: January 1, 2007

Description. This work shall consist of furnishing, installing, maintaining, and removing temporary impact attenuators of the category and test level specified.

Materials. Materials shall meet the requirements of the impact attenuator manufacturer and the following:

Item	Article/Section
(a) Fine Aggregate (Note 1).....	1003.01
(b) Steel Posts, Structural Shapes, and Plates	1006.04
(c) Rail Elements, End Section Plates, and Splice Plates.....	1006.25
(d) Bolts, Nuts, Washers and Hardware	1006.25
(e) Hollow Structural Tubing	1006.27(b)
(f) Wood Posts and Wood Blockouts.....	1007.01, 1007.02, 1007.06
(g) Preservative Treatment.....	1007.12
(h) Packaged Rapid Hardening Mortar	1018.01

Note 1. Fine aggregate shall be FA 1 or FA 2, Class A quality. The sand shall be unbagged and shall have a maximum moisture content of five percent.

CONSTRUCTION REQUIREMENTS

General. Impact Attenuators shall meet the testing criteria contained in National Cooperative Highway Research Program (NCHRP) Report 350 for the test level specified and shall be on the Department's approved list.

Installation. Regrading of slopes or approaches for the installation shall be as shown on the plans.

Attenuator bases, when required by the manufacturer, shall be constructed on a prepared subgrade according to the manufacturer's specifications. The surface of the base shall be slightly sloped or crowned to facilitate drainage.

Impact attenuators shall be installed according to the manufacturer's specifications and include all necessary transitions between the impact attenuator and the item to which it is attached.

When water filled attenuators are used between November 1 and April 15, they shall contain anti-freeze according to the manufacturer's recommendations.

Markings. Sand module impact attenuators shall be striped with alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes. There shall be at least two of each stripe on each module.

Other types of impact attenuators shall have a terminal marker applied to their nose and reflectors along their sides.

Maintenance. All maintenance of the impact attenuators shall be the responsibility of the Contractor until removal is directed by the Engineer.

Relocate. When relocation of temporary impact attenuators is specified, they shall be removed, relocated and reinstalled at the new location. The reinstallation requirements shall be the same as those for a new installation.

Removal. When the Engineer determines the temporary impact attenuators are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

Surplus material shall be disposed of according to Article 202.03. Anti-freeze, when present, shall be disposed of/recycled according to local ordinances.

When impact attenuators have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

Method of Measurement. This work will be measured for payment as each, where each is defined as one complete installation.

Basis of Payment. This work will be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, WIDE); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, RESETTABLE); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE); or IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) of the test level specified.

Relocation of the devices will be paid for at the contract unit price per each for IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE); IMPACT ATTENUATORS, RELOCATE (SEVERE USE); or IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE); of the test level specified.

Regrading of slopes or approaches will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

NOTCHED WEDGE LONGITUDINAL JOINT (BDE)

Effective: July 1, 2004

Revised: January 1, 2007

Description. This work shall consist of constructing a notched wedge longitudinal joint between successive passes of hot-mix asphalt (HMA) binder course that is placed in 2 1/4 in. (57 mm) or greater lifts on pavement that is open to traffic.

The notched wedge longitudinal joint shall consist of a 1 to 1 1/2 in. (25 to 38 mm) vertical notch at the centerline or lane line, a 9 to 12 in. (230 to 300 mm) uniform taper extending into the open lane, and a second 1 to 1 1/2 in. (25 to 38 mm) vertical notch (see Figure 1).

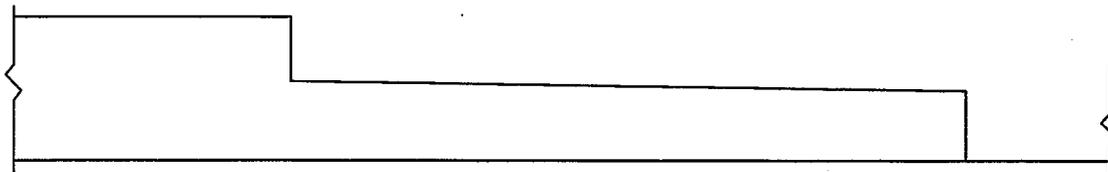


Figure 1

Equipment. Equipment shall meet the following requirements:

- a) Strike Off Device. The strike off device shall produce the notches and wedge of the joint and shall be adjustable. The device shall be attached to the paver and shall not restrict operation of the main screed.
- b) Wedge Roller. The wedge roller shall have a minimum diameter of 12 in. (300 mm), a minimum weight of 50 lb/in. (9 N/mm) of width, and a width equal to the wedge. The roller shall be attached to the paver.

CONSTRUCTION REQUIREMENTS

Joint Construction. The notched wedge longitudinal joint shall be formed by the strike off device on the paver. The wedge shall then be compacted by the joint roller.

Compaction. Initial compaction of the wedge shall be as close to final density as possible. Final density requirements of the entire binder mat, including the wedge, shall remain unchanged.

Prime Coat. Immediately prior to placing the adjacent lift of binder, the bituminous material specified for the mainline prime coat shall be applied to the entire face of the notched wedge longitudinal joint. The material shall be uniformly applied at a rate of 0.05 to 0.1 gal/sq yd (0.2 to 0.5 L/sq m).

Method of Measurement. The notched wedge longitudinal joint will not be measured for payment.

| The prime coat will be measured for payment according to Article 406.13 of the Standard Specifications.

Basis of Payment. The work of constructing the notched wedge longitudinal joint will not be paid for separately but shall be considered as included in the cost of the HMA binder course being constructed.

| The prime coat will be paid for according to Article 406.14 of the Standard Specifications.

80129

PUBLIC CONVENIENCE AND SAFETY (BDE)

Effective: January 1, 2000

Add the following paragraph after the fourth paragraph of Article 107.09 of the Standard Specifications:

“On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.”

80015



100

